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Report to Congressional Committees

April 2003

DEFENSE SPACE ACTIVITIES

Organizational Changes Initiated, but Further Management Actions Needed

GAO-03-379

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GAO Accountability • Integrity • Reliability

Highlights

Highlights of GAO-03-379, a report to Congressional Committees

Why GAO Did This Study

In January 2001, the congressionally chartered Commission to Assess United States National Security Space Management and Organization—known as the Space Commission—reported that the Department of Defense (DOD) lacked the senior-level focus and accountability to provide guidance and oversight for national security space operations. Congress mandated that GAO provide an assessment of DOD's actions to implement the Space Commission's recommendations. Thus, GAO (1) updated its June 2002 assessment of DOD's actions to address the Space Commission's recommendations, (2) ascertained progress in addressing other long-term management concerns, and (3) assessed the extent to which DOD has developed a results-oriented management framework for space activities.

What GAO Recommends

GAO recommends that DOD develop a national security space strategic plan tied to overall department goals and performance measures; establish a strategic approach for space human capital; and designate a department-level entity to provide space program oversight and assess progress.

DOD agreed with these recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-03-379.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Raymond J. Decker at (202) 512-6020 or deckerrj@gao.gov.

What GAO Found

Since June 2002 when we reported that DOD intended to implement 10 of the Space Commission's 13 recommendations to improve the management and organization of space activities and had completed implementation of 6, DOD has completed action on 3 more recommendations. The only action intended but not completed at the conclusion of our work is designation of the Air Force as the executive agent for DOD space programs. Most of the changes represent organizational actions to improve DOD's ability to manage space. For example, DOD has:

- created a focal point for integrating DOD space activities by appointing the Under Secretary of the Air Force also as Director, National Reconnaissance Office;
- realigned Air Force space activities under one command; and
- created a separate position of Commander, Air Force Space Command, to provide increased attention to the organization, training, and equipping for space operations.

It is too early to assess the effects of these organizational changes because new institutional roles, processes, and procedures are still evolving.

DOD still faces challenges in addressing long-term management problems, such as increasing its investment in innovative space technologies, improving the timeliness and quality of acquisitions, and developing a cadre of space professionals. DOD has initiated some actions to address these concerns, such as increasing resources for research on space technology and developing a new acquisition process, and the services have begun some plans for developing space professionals. However, most planned actions are not fully developed or implemented. Further, DOD has not developed an overarching human capital strategy for space that would guide service plans to ensure all requirements for space professionals are met.

DOD does not have a comprehensive, results-oriented management framework for space activities. The Air Force is developing some policies and guidance that could be part of a management framework for space activities. However, we did not have access to the draft documents to determine whether they will contain results-oriented elements—such as a strategy, performance goals and measures, and timelines—that will enable DOD to better focus its efforts and assess its progress in attaining its space goals. Further, no single department-level entity has been charged with providing oversight of the Air Force's management of its executive agent for space responsibilities to assess its progress in achieving space goals while ensuring that all services' requirements for space capabilities are fairly considered.

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Abbreviations

DOD	Department of Defense
NRO	National Reconnaissance Office
DARPA	Defense Advanced Research Projects Agency

GAO
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

April 18, 2003

The Honorable John Warner
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Duncan Hunter
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

The United States depends on space to underpin many national security activities as well as for civil and commercial purposes. The Department of Defense (DOD) employs space assets to support a wide range of military missions to include intelligence collection; battlefield surveillance and management; global command, control, and communications; and navigation assistance. Commercial use of space extends to activities in transportation, health, the environment, communications, commerce, agriculture, and energy. However, the United States' increasing national dependence on space-borne systems creates new vulnerabilities that potential adversaries may seek to exploit.

Since the early 1990s, Congress has expressed concerns about DOD's organization and management of space activities, in particular its ability to fully exploit space in support of warfighting. In October 1999, Congress chartered the Commission to Assess United States National Security Space Management and Organization—known as the Space Commission—to review the organization and management of national security space activities and provide recommendations for improvement. In January 2001, the Space Commission reported that DOD was not properly organized to provide direction and oversight for national security space operations. The commission's recommendations suggested actions that could be implemented in the short- or mid-term to better position national security space organizations and provide needed flexibility to realize longer-term space goals. Thirteen of the Space Commission's recommendations addressed actions DOD could implement to improve coordination,

execution, and oversight of DOD's space activities. The Space Commission also identified some long-standing management challenges, including insufficient investment in innovative space technologies, a cumbersome acquisition process, and an inadequate program to develop and maintain a cadre of space professionals for leadership roles in all aspects of space-related activities.

In the National Defense Authorization Act for Fiscal Year 2002, Congress mandated that we provide an assessment in 2002 and 2003 of the actions taken by the Secretary of Defense in implementing the Space Commission's recommendations.[1] Our June 2002 report stated that DOD had completed or was in the process of implementing most of the Space Commission recommendations.[2] Our objectives for this subsequent report were to (1) update the status of the actions DOD has taken to implement the Space Commission's recommendations, (2) ascertain the status of DOD's efforts to address long-term management challenges, and (3) assess the extent to which DOD has developed a results-oriented management framework for space activities that includes critical elements to foster program success.

Results in Brief

In response to the Space Commission's recommendations, DOD has taken further steps to implement some organizational changes that have the potential to improve its ability to manage space activities, but it is too early to assess the effects of these and earlier changes DOD announced because new institutional roles, processes, and procedures are still evolving. Since June 2002, when we reported that DOD intended to implement 10 of the commission's 13 recommendations and had completed implementation of 6, DOD has completed action on 3 more recommendations. The only action intended but not completed at the conclusion of our work is designation of the Air Force as executive agent[3] for DOD space programs. Organizational changes completed include

[1] P.L. 107-107, section 914.

[2] U.S. General Accounting Office, *Defense Space Activities: Status of Reorganization*, GAO-02-772R (Washington, D.C.: June 26, 2002).

[3] The executive agent is a term used to indicate a delegation of authority by the Secretary of Defense to a subordinate to act on the Secretary's behalf. The exact nature and scope of the authority delegated may vary. It may be limited to providing administration and support or coordinating certain functions or extend to direction and control over specified resources for specified purposes. The DOD directive that will define the scope of authority in this instance has not yet been formally approved.

creating a focal point for space by naming the Under Secretary of the Air Force as Director, National Reconnaissance Office,[4] and charging this individual with responsibility for integrating space activities across DOD as well as milestone decision authority[5] for major space acquisitions; creating a separate position of Commander, Air Force Space Command, to provide increased attention to the organization, training, and equipping for space operations; and creating a mechanism to identify space spending across the department.

DOD has taken some actions to address long-term management challenges, but the extent of progress in identifying and implementing needed actions has varied. For example, DOD plans to increase its budget for space science and technology by 25 percent between fiscal years 2003 and 2007 and almost double it by 2009. However, the availability of such funding in view of other departmental priorities is uncertain. Further, the Air Force has a draft acquisition approach intended to streamline the acquisition process and reduce the cost of building and launching space systems, but the process has not been fully validated and finalized. In addition, DOD and the services have not developed and implemented human capital plans needed to build a cadre of space professionals to lead space activities in the future. Specifically, DOD lacks an overall human capital strategic approach for space that could give guidance and facilitate development of individual service plans to better manage space forces. Further, it has not established time frames for completing such plans.

DOD has not yet developed a comprehensive results-oriented management framework for space activities that includes critical elements to foster future program success. As the executive agent for DOD space, the Under Secretary of the Air Force has begun developing, in collaboration with the other services and defense agencies involved in space activities, a national security space strategy and a national security space plan. According to officials in the office of the executive agent for DOD space who are developing the strategy and plan, the documents will set the goals of national security space activities, identify approaches to achieve those

[4] The National Reconnaissance Office (NRO) designs, builds and operates the nation's reconnaissance satellites. NRO provides products to DOD and the Central Intelligence Agency, among others.

[5] The milestone decision authority is the individual designated to approve entry of an acquisition program into the next phase of the acquisition process.

goals, and provide input to the Defense Planning Guidance [6] which serves as a basis for assessing whether the services' planned budgets fulfill national security space priorities. The officials hope to finalize these documents in early 2003. However, because these documents have not been finalized and we were not provided access to draft plans, it is not clear whether they address all the critical elements of a results-oriented management framework—such as performance goals and measures. Without a results-oriented management framework, DOD will not be able to fully gauge its progress toward more effective national security space activities. In conjunction with its fiscal year 2000 budget, DOD developed a department-level performance report that specifies measures for some performance goals, but the report did not include goals and measures for space activities. In addition, no single entity in the Office of the Secretary of Defense has oversight responsibility to assess the Air Force's progress in effectively managing departmentwide space activities and achieving associated performance goals and measures. Until such plans and oversight are in place, DOD cannot be assured that its investments will optimally support its current and future requirements for space operations.

Accordingly, we are making recommendations to improve the management oversight and accountability for space operations. DOD agreed or partially agreed with our recommendations.

Background

America's interests in space, according to the National Space Policy, are to support a strong, stable, and balanced national space program that serves our goals in national security, foreign policy, economic growth, environmental stewardship, and scientific excellence. DOD policy states that space—like land, sea, and air—is a medium within which military activities shall be conducted to achieve national security objectives. [7]

The national security space sector is primarily comprised of military and intelligence activities. The Air Force is DOD's primary procurer and operator of space systems and spends the largest share of defense space

[6] The Defense Planning Guidance, issued by the Secretary of Defense, provides goals, priorities, and objectives, including fiscal constraints, for the development of military departments' and defense agencies' budgets.

[7] Fact Sheet: National Space Policy-the White House, National Science & Technology Council (Sept. 19, 1996); and DOD Directive 3100.10 (July 9, 1999).

funds, annually averaging about 85 percent. The Army controls a defense satellite communications system and operates ground mobile terminals. The Navy operates several space systems [8] that contribute to surveillance and warning and is responsible for acquiring the Mobile User Operations System, the next generation Ultra High Frequency satellite communication system. The U.S. Strategic Command[9] is responsible for establishing overall operational requirements while the services are responsible for satisfying these requirements to the maximum extent practicable through their individual planning, programming, and budgeting systems. The Air Force Space Command is the major component providing space forces for the U.S. Strategic Command. The NRO designs, procures, and operates space systems dedicated to intelligence activities. The National Security Space Architect develops and coordinates space architectures for future military and intelligence activities. The Office of the Secretary of Defense, the Marine Corps, and other DOD agencies also participate in national security space activities. The Office of National Security Space Integration, which reports to the Under Secretary of the Air Force and Director, NRO, facilitates integration of military and intelligence activities and coordinates implementation of best practices among agencies.

The management and organization of national security space programs and activities has received continual congressional attention since the early 1990s. In 1995, DOD responded to congressional concerns about the lack of a coherent national security space management structure by consolidating certain space management functions within a new Office of the Deputy Under Secretary of Defense for Space. However, in 1998, under a defense reform initiative, DOD abolished this office and dispersed the management functions among other DOD offices, primarily the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence and the Under Secretary of Defense for Acquisition, Technology, and Logistics.

[8] Navy operated space systems include the Ultra High Frequency Follow-on, WindSat Ocean Surface Wind Vector Measurements from Space, and Navy Space Surveillance System. The Naval Space Surveillance System will be transferred to the Air Force.

[9] The U.S. Space Command merged with the U.S. Strategic Command on October 1, 2002. The combined command is responsible for space operations, information operations, computer network operations, and strategic defense and attack.

The Space Commission[10] noted that the United States has an urgent interest in protecting the access to space and developing the technologies and capabilities to support long-term military objectives. It stressed the need to elevate space on the national security agenda and examine the long-term goals of national security space activities. The Space Commission provided a total of 16 recommendations, including a call for presidential leadership to set space as a national security priority and provide direction to senior officials. However, 13 of the Space Commission's recommendations were directed at DOD and focused on near- and mid-term management and organizational changes that would merge disparate activities, improve communication channels, establish clear priorities, and achieve greater accountability.

DOD Has Made Further Organizational and Management Changes to Implement Space Commission Recommendations

The Secretary of Defense directed a number of organizational changes to improve leadership, responsibility, and accountability for space activities within DOD in response to the Space Commission's report. After some delays, most are complete or nearing completion, although it is too early to assess the effects of these changes. The Space Commission found that DOD's organization for space was complicated with various responsibilities delegated to different offices within the department. For example, the Space Commission determined that it was not possible for senior officials outside DOD to identify a single, high-level individual who had the authority to represent DOD on space-related matters. Further, the commission noted that no single service had been assigned statutory responsibility to "organize, train, and equip" for space operations. The commission provided 13 recommendations to DOD intended to improve the focus and accountability within the national security space organization and management.

As we reported in our June 2002 assessment, the Secretary of Defense decided to implement 10 of the Space Commission's 13 recommendations while opting to take alternative actions for the remaining 3.[11] In a May 8, 2001, letter to the defense and intelligence oversight committees, the Secretary stated that the department would not implement the Space Commission's recommendation to create an Under Secretary of Defense

[10] The present Secretary of Defense led the Space Commission prior to his nomination to his current position.

[11] GAO-02-772R.

for Space, Intelligence, and Information.[12] DOD also did not seek legislation to give the Air Force statutory responsibility to organize, train, and equip space forces, as recommended. Rather, the Secretary said the department would address these organizational and leadership issues with alternative actions. For example, DOD elected not to create a new office to integrate military and intelligence research efforts, deciding instead to increase coordination among existing offices. At the time of our last report, DOD had completed action to implement six of the recommendations, and four were in the process of being implemented. DOD has now completed action on three more, with actions on the remaining recommendation still in progress. See appendix I for information on the status of each of the Space Commission's 13 DOD-specific recommendations.

To address some of the Space Commission's specific recommendations as well as additional opportunities that the department identified for improving the organization and management of its space activities, the Secretary of Defense issued a memorandum in October 2001 that directed actions to:

- assign the Under Secretary of the Air Force as Director, NRO;
- designate the Under Secretary of the Air Force as the Air Force Acquisition Executive[13] for Space;
- delegate program milestone decision authority for DOD space major defense acquisition programs and designated space programs to the Under Secretary through the Secretary of the Air Force;
- realign the Office of the National Security Space Architect to report to the Director, NRO (who is also the Under Secretary of the Air Force) and make the Architect responsible for ensuring that military and intelligence funding for space is consistent with policy, planning guidance, and architectural decisions;
- designate the Secretary of the Air Force as DOD executive agent for space with redelegation to the Under Secretary of the Air Force;
- assign the Air Force the responsibility for organizing, training, equipping, and providing forces as necessary for the effective prosecution of offensive and defensive military operations in space;

[12] The National Defense Authorization Act of 2003 (P.L. 107-314, section 901) authorized DOD to create an Under Secretary for Intelligence. The responsibilities for this new position have not yet been released.

[13] The acquisition executive is the individual charged with overall acquisition management responsibilities within his or her organization.

- realign Air Force headquarters and field commands to more closely integrate space acquisitions and operations functions; and
- assign responsibility for the Air Force Space Command to a four-star officer other than the Commander of the U.S. Space Command (now merged with U.S. Strategic Command) and North American Aerospace Defense Command to provide dedicated leadership to space activities.

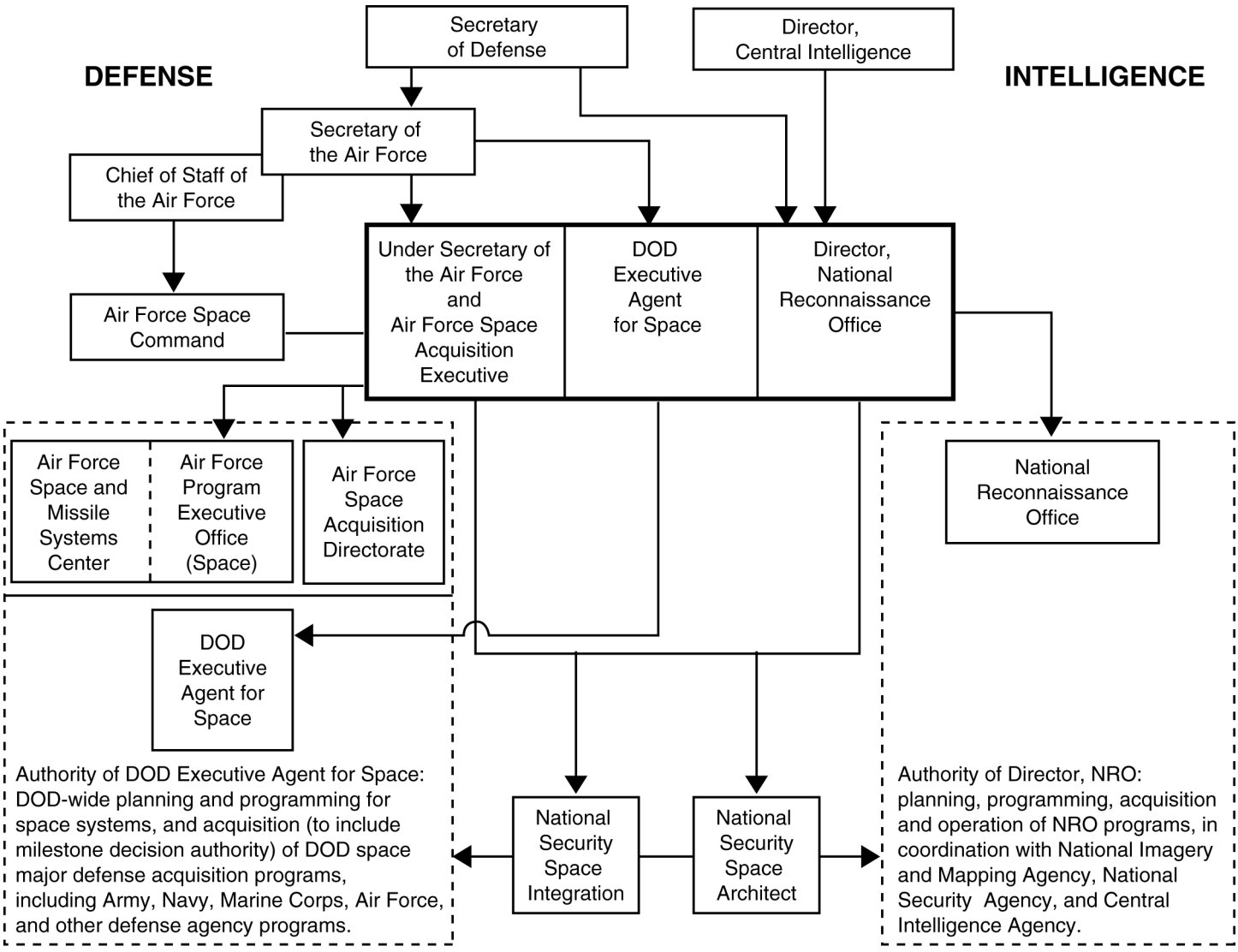
By appointing the Under Secretary of the Air Force as the Director, NRO, and the Air Force acquisition executive for space, as well as designating the Under Secretary DOD's executive agent for space, the Secretary of Defense provided a focal point for DOD space activities. The Space Commission recommended the designation of a single person as Under Secretary of the Air Force; Director, NRO; and Air Force acquisition executive for space to create a senior-level advocate for space within DOD and the Air Force and represent space in the Air Force, NRO, and DOD planning, programming, and budgeting process. In addition, the authority to acquire space systems for the Air Force and NRO is intended to better align military and intelligence space acquisition processes. In explaining the rationale for this change, senior DOD officials told us that the barriers between military and intelligence space activities are diminishing because of the current need to support the warfighter with useful information from all sources. In an effort to improve space acquisitions and operations, joint Air Force and NRO teams have been working to identify the best practices of each organization that might be shared, according to Air Force and NRO officials. These teams have recommended what they believe to be 37 best practices to the Under Secretary of the Air Force in the areas of acquisition, operations, launch, science and technology, security, planning, and programming. Joint efforts to identify best practices are continuing in the areas of requirements, concepts of operation, personnel management, financial management, and test and evaluation.

The Space Commission recommended formal designation of the Air Force as executive agent for space with departmentwide responsibility for planning, programming, and acquisition of space systems, and the Secretary of Defense stated in his October 2001 memorandum that the Air Force would be named DOD executive agent for space within 60 days. However, the directive formally delineating the Air Force's new roles and responsibilities and those of the other services in this area has not been finalized. Air Force officials said they hoped it would be finalized in early 2003. Until the directive designating the Air Force as executive agent for DOD space is signed, the Air Force cannot formally assume the executive agent duties that the Space Commission envisioned. In the meantime, the Air Force has begun to perform more planning and programming duties.

During the delay in the formal delegation of authority, the Air Force and other services and defense agencies have begun collaborating on space issues in accordance with the Secretary's intent. After the directive is released, the executive agent for space expects to be tasked to develop an implementation plan that will articulate processes and procedures to accomplish DOD's space mission.

The Air Force has realigned its headquarters to support the Air Force Under Secretary's efforts to integrate national security space activities and perform new duties as the executive agent for DOD space. The Under Secretary of the Air Force has established an Office of National Security Space Integration to implement the executive agent duties across DOD, coordinate the integration of service and intelligence processes and programs, develop streamlined national security space acquisition processes, and lead the development of a management framework for space activities. Although this office is located within the Air Force and NRO, it will consist of members from all the services and some defense agencies. Figure 1 shows DOD's and the Air Force's new organization for supporting national security space activities.

Figure 1: DOD's and the Air Force's Organization for National Security Space, as of February 2003



Source: U.S. Air Force.

Also in response to a Space Commission recommendation, the Air Force reorganized its field commands to consolidate the full range of space activities—from concept and development, to employment and sustainment of space forces—within the Air Force Space Command. To consolidate the acquisition and operations functions, the Air Force Space and Missile Systems Center[14] was separated from the Air Force Materiel Command and became part of the Air Force Space Command. According to the Commander, Air Force Space Command, the consolidation of these functions in the same command is unique and should improve communications while exposing personnel to both acquisition and operations. According to Air Force officials, this new arrangement will enable space system program managers who have been responsible for acquiring space systems—such as the Global Positioning System—to help generate new concepts of operations. Conversely, the arrangement will also enable space system operators to develop a better understanding of the acquisitions processes and acquire new skills in this area.

To provide better visibility of DOD's and the Intelligence Community's level and distribution of fiscal and personnel resources, as the Space Commission recommended, DOD and the Intelligence Community developed a crosscutting or "virtual" major force program[15] by aggregating budget elements for space activities across DOD and the Intelligence Community. This virtual space major force program identifies and aggregates space-related budget elements within DOD's 11 existing major force programs. According to DOD officials, having a crosscutting major force program for space activities is logical because space activities span multiple program areas, such as strategic forces and research and development. The space major force program covers spending on development, operation, and sustainment of space, launch, ground, and user systems, and associated organizations and infrastructure whose primary or secondary missions are space-related. DOD included the space major force program in its Future Years Defense Program[16] for fiscal years

[14] The Space and Missile Systems Center designs and acquires all Air Force and most DOD space systems.

[15] A major force program is a budget mechanism by which DOD aggregates related budget items to track resources that support a macro-level combat or support mission, such as strategic forces or general purpose forces.

[16] DOD's Future Years Defense Program is the official document that summarizes the force levels and funding associated with specific programs. It presents estimated appropriation needs for the budget year for which funds are being requested from Congress and at least 4 years following it.

2003 to 2007 and identified $144 billion in space spending planned for this period. The Under Secretary of the Air Force said he used the virtual major force program to facilitate examination of the services' space program plans and budgets.

The Secretary of Defense tasked the National Security Space Architect with reporting on the consistency of space programs with policy, planning, and architecture decisions. During the spring and summer of 2002, the Architect led the first annual assessment of the programs included in the space virtual major force program and some related programs. Teams of subject matter experts from DOD, Intelligence Community, and civilian agencies involved in space programs reviewed the services' and Intelligence Community's proposed budgets for future space spending to identify capabilities gaps and redundancies while evaluating whether budget requests adhered to departmental policy and guidance. The Architect provided the classified assessment results to the Under Secretary, as well as the Secretary of Defense, the Director of Central Intelligence, and other senior DOD and Intelligence Community leaders, to support decision-making on space programs during the fiscal year 2004 budget review.

It is too early to assess the effects of DOD's organizational changes for its space programs because new institutional roles, processes, and procedures are still evolving, and key documents are not yet finalized. According to DOD officials, some delays in implementing the recommendations can be attributed to the time needed to select and confirm the pivotal senior leadership for national security space, and for the new leaders to direct changes in processes and procedures. For example, the Senate confirmed the Under Secretary of the Air Force on December 7, 2001, and new directorates within his office were established on April 15, 2002, to begin national security space integration and acquisition activities. Similarly, DOD created a separate four-star position of Commander, Air Force Space Command, separating the command of the Air Force Space Command from the Commander, U.S. Space Command/North American Aerospace Defense Command. However, the new Commander, Air Force Space Command, did not assume command until April 19, 2002. Developing policy and guidance to implement organizational changes took longer than the 30 to 120 days specified in the Secretary of Defense's memorandum of October 18, 2001 (see app. II for a time line of major events in the reorganization). For example, the directive that would designate the Air Force as executive agent for DOD space is still in draft over a year after the memorandum.

Progress in Addressing Long-Term Management Challenges Varies

As DOD's efforts to build a more coherent organizational structure for managing national security space activities near completion, the department's progress in addressing long-term management challenges has varied. DOD increased funding for space science and technology activities in fiscal year 2004 and plans future increases. Also the department is drafting a new acquisition process for space systems that is intended to reduce the time to develop and acquire space systems, but the process has not been fully tested and validated. Finally, DOD has not established a human capital strategy to develop and maintain a cadre of space professionals that will guide the space program in the future, and none of the services has developed and implemented its own space cadre plans or established time frames for completing such plans.

Increased Investment in Space Research and Technology Planned

Between fiscal years 2003 and 2007, DOD plans to increase its budget for space science and technology by almost 25 percent, from about $975 million in 2003 to over $1.2 billion in 2007. In addition, DOD plans by 2009 to spend over $1.8 billion for space science and technology, or almost two times the fiscal year 2003 budget. According to the Director of the Defense Advanced Research Projects Agency (DARPA), the Space Commission's report's emphasis on increased investment in space-based technology was the impetus for significant increases in space research and development funding over the next 5 years—from $235 million in fiscal year 2003 to $385 million by fiscal year 2007 as shown in the fiscal year 2004 President's budget request. Under current plans, DARPA will receive most of these funds. The Director said that over the years the agency's concentration on space-based technologies varied and that just prior to the Space Commission report, ongoing space efforts were at a low point. The Director also said that investments in space are consistent with the agency's charter to solve national-level technology problems, foster high-risk/high-payoff military technologies to enable operational dominance, and avoid technological surprise. Innovative space technology studies currently underway, including the "Responsive Access, Small Cargo, Affordable Launch" and "Orbital Express" efforts,[17] are a direct result of the Space Commission report. The Air Force is the next largest recipient of increased funding for space research and engineering with an expected budget increase of more than $89 million between 2003 and 2007.

[17] "Responsive Access, Small Cargo, Affordable Launch" is an effort to provide quick and economic launch capabilities for micro-size satellites; "Orbital Express" is an effort to demonstrate the feasibility of refueling, upgrading, and extending the life of on-orbit spacecraft.

The Army and the Navy have smaller shares of space-related research funding and, according to service officials, project small budget increases. DOD recently completed a departmentwide assessment of space science and technology that it intends to use to direct the priorities of future research. However, whether planned funding increases will become available in view of other departmental priorities is uncertain.

Draft Space Acquisition Process Not Validated

DOD is taking steps it hopes will streamline the acquisition process and reduce the time it takes to acquire space-based systems required by the national security space community. The Air Force has developed a new space system acquisition decision process designed to shorten time frames for technical assessments and facilitate faster decision-making. This approach will establish key decision points based on program maturity and provide more oversight earlier in the development of complex satellite technology. It will also reduce the number of independent cost estimates performed at each key decision point from two to one[18] and employs a full time, dedicated independent assessment team to perform technical reviews in less time at each decision point. Having milestone decision authority, the Under Secretary of the Air Force determines whether major space systems should proceed to the next phase of development. The Under Secretary serves as chair of the Defense Space Acquisitions Board, which oversees the new acquisition process.[19] However, the guidance for executing acquisition procedures is still in draft,[20] and the draft acquisition process is still being validated. DOD has used the new process for milestone decisions on three space systems—the National Polar-Orbiting Operational Environmental Satellite System, the Mobile User Objective System, and the latest generation of Global Positioning System satellite vehicles—that had been started under the previous acquisition system. Officials said that the process had been successful in that it enabled the Air Force to make better and faster decisions by identifying problems early that needed to be resolved before the system proceeded into the next development phase. The Space Based Radar promises to be the first system to begin the acquisition process under the new system.

[18] The new process will require a cost estimate from the program office and an estimate led by the Office of the Secretary of Defense's Cost Accounting Improvement Group.

[19] The Defense Space Acquisitions Board is composed of representatives of the military services and defense agencies invited by the Under Secretary.

[20] National Security Space Acquisition Policy 03-01.

Early identification of potential problems is essential in the acquisition process, particularly in regard to issues such as design stability, sufficient funding, requirement stability, realistic schedules, and mature technology. As we have previously reported, DOD programs, including some space programs, have experienced problems when these elements have not been sufficiently addressed.[21] For example, the Advanced Extremely High Frequency satellite program continued to move through the acquisition process despite frequent changes to its requirements and experienced cost overruns and schedule delays.[22] The Space Based Infrared systems also experienced increased cost and schedule delays.[23] Congress has repeatedly expressed concerns about the cost overruns and schedule delays of these defense space programs and expected that any changes underway to reduce decision cycle time for space programs should not detract from the ability of the Office of the Secretary of Defense and the Joint Requirements Oversight Council[24] to provide meaningful oversight of space programs. Consequently, in the National Defense Authorization Act for 2003 (section 911(b)), Congress directed the Office of the Secretary of Defense to maintain oversight of space acquisitions and submit a detailed oversight plan to Congress by March 15, 2003. [25]

[21] See U.S. General Accounting Office, *Military Space Operations: Planning, Funding, and Acquisition Challenges Facing Efforts to Strengthen Space Control*, GAO-02-738 (Washington, D.C.: Sept. 23, 2002); U.S. General Accounting Office, *Best Practices: Better Management of Technology Development Can Improve Weapon System Outcomes*, GAO/NSIAD-99-162 (Washington, D.C.: July 30, 1999); U.S. General Accounting Office, *Best Practices: Better Matching of Needs and Resources Will Lead to Better Weapon System Outcomes*, GAO-01-288 (Washington, D.C.: Mar. 8, 2001); U.S. General Accounting Office, *Defense Acquisition: Best Commercial Practices Can Improve Program Outcomes*, GAO/T-NSIAD-99-116 (Washington, D.C.: Mar. 17, 1999); and U.S. General Accounting Office, *Best Practices: Capturing Design and Manufacturing Knowledge Early Improves Acquisition Outcomes*, GAO-02-701 (Washington, D.C.: July 15, 2002)

[22] U.S. General Accounting Office, *Defense Acquisitions: Risks Remain for the AEHF Satellite Communications System*, GAO-03-63 (Washington, D.C.: Mar. 31, 2003).

[23] U.S. General Accounting Office, *Defense Acquisitions: Space Based Infrared System-Low at Risk of Missing Initial Deployment Date*, GAO-01-6 (Washington, D.C.: Feb. 28, 2001).

[24] The Joint Requirements Oversight Council is composed of senior military officers from each service and makes recommendations to the Chairman of the Joint Chiefs of Staff on programmatic alternatives, tradeoffs, risks, bill-payers, and effectiveness.

[25] P.L. 107-314.

DOD and Services Lack a Strategic Approach to Build and Maintain Cadre of Space Professionals

DOD does not have a strategic approach for defense space personnel that could better guide the development of the individual services' space cadre plans to support the department's strategic goals.[26] The Space Commission noted that from its inception the defense space program has benefited from world-class scientists, engineers, and operators, but now many experienced personnel are retiring and the recruitment and retention of qualified space personnel is a problem. The net effect of a workforce that is not balanced by age or experience puts at risk the orderly transfer of institutional knowledge. Further, the commission concluded that DOD does not have the strong military space culture—including focused career development and education and training—it needs to create and maintain a highly trained and experienced cadre of space professionals who can master highly complex technology as well as develop new concepts of operation for offensive and defensive space operations. In October 2001, the Secretary of Defense directed the military services[27] to draft specific guidance and plans for developing, maintaining, and managing a cadre of space professionals to provide expertise within their services and joint organizations.[28] However, the Secretary did not direct development of a departmentwide space human capital strategy to ensure that national security space human capital goals, roles, responsibilities, and priorities are clearly articulated so that the service implementation plans are coordinated to meet overall stated requirements.

The Army, Navy, and Air Force have each produced initial guidance on developing and managing their own space professionals.[29] However, none of these provide details about how the individual service will proceed with developing and implementing plans for addressing service and joint force requirements in future years, or time frames for implementing space cadre

[26] In prior reports and testimony, we identified strategic human capital management planning as a governmentwide high-risk area and a key area of challenge. See *Major Management Challenges and Program Risks: Department of Defense*, GAO-03-98 (Washington, D.C., Jan. 2003).

[27] The Commander, Air Force Space Command, is charged with managing career development and education and training within the Air Force, which contains the majority of space professionals.

[28] As we reported previously, DOD also lacks a strategic approach to manage joint officer requirements. See U.S. General Accounting Office, *Military Personnel: Joint Officer Development Has Improved, but a Strategic Approach Is Needed*, GAO-03-238 (Washington, D.C.: Dec. 19, 2002).

[29] Planning for the space personnel in the U.S. Marine Corps will be included in the Navy's space cadre planning.

management plans. The services' plans are still being developed, and we were not afforded access to the draft plans to assess their completeness and viability nor were we given firm estimates of when they might be completed and implemented. However, service officials told us that planning to date has focused on the military officer corps and has not included the enlisted or civilian personnel who also support space operations. In conjunction with space cadre planning, the services outlined some initiatives to increase space education for all military personnel, but these have not been fully implemented. While each service has separately begun planning to build and maintain a service space cadre, the services have not yet begun to coordinate their plans across DOD to ensure a shared direction and time frames. The Under Secretary of the Air Force said that other areas of space operations, such as acquisitions, have taken priority but that he plans to devote more attention to this area to achieve greater progress.

Space Program Lacks Results-Oriented Management Framework

The Department of Defense has produced some policies and guidance to implement its space program, but it has not completed a comprehensive strategy or an implementation plan to guide the program and monitor its results. DOD is in the process of developing some elements of a results-oriented management framework, such as a national security space strategy, an annual national security space plan, and a directive formalizing the Air Force's role as an executive agent for space. According to officials in the Office of National Security Space Integration responsible for developing the strategy and plan, these documents along with the annual assessment of the services' space budget proposals will enable the executive agent for DOD space to track the extent to which resources are supporting national security space priorities. Officials also said that as executive agent for space, the Air Force plans to report on its progress to officials in the Office of the Secretary of Defense although the content and process that will be used is still being developed. However, DOD did not provide us drafts of the national security space strategy and plan or the executive agent directive; therefore, we could not assess whether these documents comprise a results-oriented management framework or specifically how DOD will provide department-level oversight of the Air Force's activities as executive agent for space.

Management principles embraced in the Government Performance and Results Act of 1993[30] provide agencies at all levels with a framework for

[30] P.L. 103-62.

effectively implementing and managing programs, and shift the program management focus from measuring program activities and processes to measuring program outcomes. Table 1 more fully describes these principles and their critical elements.

Table 1: Elements of a Results-Oriented Management Framework

Principle	Critical elements
Define the program's overall purpose, mission, and intent (i.e., strategy).	• *Long-term goals*—typically general in nature that lay out what the agency wants to accomplish in the next 15 years. • *Approaches*—general methods the agency plans to use to accomplish long-term goals. • *External factors*—factors that may significantly affect the agency's ability to accomplish goals.
Describe detailed implementation actions as well as measurements and indicators of performance (i.e., performance plan).	• *Performance goals*—stated in objective measurable form. • *Resources*—a description of the resources needed to meet the performance goals. • *Performance indicators*—mechanisms to measure outcomes of the program. • *Evaluation plan*—means to compare and report on program results vs. performance goals. • *Corrective actions*—a list of actions needed to address or revise any unmet goals.

Source: GAO.

Note: Management principles contained in the Government Performance and Results Act.

These principles and critical elements, when combined with effective leadership, can provide a results-oriented management framework to guide programs and activities at all levels. These management tools are designed to provide the agencies, Congress, and other decisionmakers a means to understand a program's evolution and implementation as well as to determine whether initiatives are achieving their desired results.

DOD has established some elements of a results-oriented management framework for space programs that are embedded in various directives, guidance, and instructions. For example, the Sept. 30, 2001, Quadrennial Defense Review forms the backbone for the development and integration of DOD's missions and strategic priorities, and details six operational goals including one to enhance the capability and survivability of U.S. space systems. DOD views the review as its strategic plan, in compliance

with Government Performance and Results Act requirements, and, as such, the review forms the foundation from which DOD's results-oriented performance goals are identified and progress is measured. Additionally, the September 1996, National Space Policy prepared by the White House National Science and Technology Council provides broad guidance for civil, commercial, national security, and other space sectors.

Although DOD's space goals are linked to the overall national military policies, DOD has not developed all elements of a management framework to effectively manage DOD's space operations or measure their progress. The Office of National Security Space Integration is in the process of developing a national security space strategy and plan that will set out priorities to guide planning and budgeting across the department and better integrate military and intelligence space activities. The strategy and plan will form a roadmap for achieving space goals in the near- and mid-term, according to an official developing these documents. These documents will be key to setting research, development, and operational goals and integrating future space operations in the military and intelligence communities. According to National Security Space Integration Office officials, the national security space strategic plan will be linked to the overarching National Space Policy and existing long-range space strategies and plans such as those of the NRO, National Security Space Architect, and the military services. These officials told us that the national security space strategy and plan and the annual assessment by the National Security Space Architect of whether the services' budgets are consistent with policy, planning guidance, and architectural decisions, will be key components of their space management approach. However, officials said that they have not yet determined performance goals and measures to assess program implementation progress and ascertain whether program initiatives are achieving their desired results. Until such plans are finalized, DOD cannot be sure that it is investing its resources in the best way possible to support current and future requirements for space operations. National Security Space Integration Office officials said they hope to release the national security space strategy and plan in early 2003, but they did not provide us a copy of the draft strategy or plan. Therefore, we could not determine the extent to which these documents contain all the key elements of a results-oriented management framework.

A framework to lead and manage a space program effectively requires a program-specific strategy and performance plan to implement actions. However, to date DOD has not established specific space objectives that are linked to overall program goals and resource requirements, nor has it established specific performance goals or other mechanisms to measure

program outcomes. In its 2000 Annual Report to the President and Congress, DOD provided a performance plan for achieving its annual performance goals,[31] but it did not include performance goals and measures for space activities in that report.

Without a results-oriented management plan, linked to higher-level strategies, the services do not have clearly defined space objectives and milestones to guide their initiatives, nor does DOD have a mechanism to ensure successful accomplishment of integrated efforts without gaps and duplications. For example, lacking an integrated national security space strategy and plan, the services developed their fiscal year 2004-09 program budget plans without clearly defined objectives and milestones for space activities. In addition, the National Security Space Architect's assessment of defense and intelligence space programs' planned budgets for fiscal years 2004–2009, was complicated by the lack of an integrated overall strategy with performance measures. Instead, the Architect relied on multiple policies, studies, architectures, and guidance to identify overall effectiveness goals. Without an overall space strategy, including results-oriented goals and performance measures, DOD cannot fully gauge its progress toward increasing the effectiveness of national security space activities.

Moreover, it is not clear which DOD office will be responsible for assessing the efficacy of the Air Force as executive agent for space or evaluating progress in achieving performance goals, once they are established. Witnesses before the Space Commission expressed concerns about how the Air Force would treat space activities and the extent to which it would fully address the requirement that it provide space capabilities to the other services. Several organizations within the Office of the Secretary of Defense participate in ongoing oversight of space activities, including Offices of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence); the Under Secretary of Defense (Comptroller); the Under Secretary of Defense (Acquisition, Technology, and Logistics); and the Under Secretary of Defense (Policy); and the Director (Program Analysis and Evaluation). While each office has oversight responsibilities for different aspects of space activities, no one office is charged with ensuring that the Air Force's space program is having the desired results. DOD's guidance on executive

[31] Cohen, William S., *Annual Report to the President and the Congress*, *Appendix I* (Washington, D.C.: 2000). The 2000 Performance Plan was the last one DOD produced.

agents specifies that the principal assistant(s) in the Office of the Secretary should assess executive agents' performance no less frequently than every 3 years, although it does not specify the mechanism to be used for the assessment.[32] According to DOD officials, the principal assistants for the executive agent for space—the Air Force—are the offices named above, and the issue of how the progress of the Air Force as executive agent should be assessed is being discussed, and the process and content by which the national security space program will be independently evaluated or whether one office will be designated to lead such an independent evaluation has not been decided. In commenting on a draft of this report, DOD said that currently the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence has responsibility to establish policy and provide direction to the DOD components on command, control, communications and intelligence-related space systems and serves as the primary focal point for staff coordination within DOD and other government agencies. However, it is not clear from the comments whether this office will be tasked with oversight of activities of the Air Force as executive agent for DOD space.

Conclusions

DOD has charged the Air Force with leadership responsibilities for space activities and has taken some actions that have the potential to improve its management ability. While DOD plans to increase investment in technology, has developed a new acquisition strategy, and has directed the services to begin some initial planning on the national security space cadre issue, more remains to be done to meet these long-term management challenges critical to success in national security space activities. In the area of creating a space cadre, however, DOD lacks an overall human capital strategic approach to manage the space forces, leaving the services at risk of developing human capital plans that do not meet the overall national security space needs of the department. Moreover, no time frames have been established for developing coordinated plans. Furthermore, the department does not have a complete results-oriented management framework to assess the results of the changes in its organization and processes and gauge its progress toward achieving its long-term goals in the future. Therefore, the services and Intelligence Community continue to develop national security space programs based on their own requirements without the benefit of overarching guidance on national security space goals, objectives, and priorities. Also, in its fiscal year 2000

[32] DOD Directive 5100.88 (Sept. 3, 2002).

performance report that accompanied its budget, the department did not include performance goals and measures for space activities, which would be a mechanism to highlight program progress and signal the relative importance of national security space activities. Although the Under Secretary of the Air Force, as DOD's focal point for space, is responsible for leading the implementation of the national security space strategy and plan, questions have been raised about the extent to which the Air Force will fairly address the needs of the other services and defense agencies. Furthermore, DOD has not specified an oversight mechanism at the Secretary of Defense level to periodically assess the progress of the Air Force in achieving the department's goals for space activities and in addressing the requirements of the other services and defense agencies. Without such oversight, it will be difficult for DOD to know whether the changes made are having the desired results of strengthening national security space activities.

Recommendations for Executive Actions

To improve the management of national security space activities, we recommend that the Secretary of Defense take the following actions:

- require the executive agent for DOD space, in conjunction with the services, to establish a departmentwide space human capital strategy that includes goals and time lines to develop and maintain a cadre of military and civilian space professionals;
- require the executive agent for DOD space to develop a comprehensive management framework for space activities that includes a results-oriented national security space strategy tied to overall department-level space goals, time lines, and performance measures to assess space activities' progress in achieving national security space goals;
- include performance goals and measures for space activities in DOD's next departmentwide performance report; and
- designate an oversight entity in the Office of the Secretary of Defense to periodically assess the progress of DOD's executive agent in achieving goals for space activities.

We further recommend that the Secretary of Defense direct the Secretaries of the Army, the Navy, and the Air Force to review, and as necessary, adjust service cadre plans to ensure they are linked to the department's space human capital strategy when completed.

Agency Comments and Our Evaluation

In its comments on our draft report, DOD agreed with our recommendations to establish a departmentwide space human capital strategy; develop a management framework for space activities that includes a results-oriented national security space strategy tied to overall department-level space goals, time lines, and performance measures; include goals and measures for space activities in the department's next performance report; and designate an oversight entity in the Office of the Secretary of Defense to assess the progress of DOD's executive agent in achieving goals for space activities. In its comments, DOD stated that it is already in the process of developing strategies and plans to address the issues of strategic planning—including goals, time lines, and performance measures—and developing space professional personnel. DOD partially agreed with our recommendation that the military services' space cadre plans be linked to the department's space human capital strategy when completed, stating that the services are already drafting separate plans that will be synchronized and linked to an overall national security space plan, and that the services should not wait to complete their own plans. We agree that development of an overall plan can logically take place concurrently with service planning and have reworded our recommendation accordingly. The intent of our recommendation to develop an overall human capital strategy and service plans that are appropriately linked to the overall strategy is to ensure that the services and defense agencies provide adequate training to meet service and defensewide requirements. Furthermore, with an integrated approach, the service plans should offer training programs that minimize duplication of effort and reduce critical gaps of coverage to effectively create and maintain a capable space cadre across the department. DOD's comments are included in this report in appendix III. DOD also provided technical clarifications, which we incorporated as appropriate.

Our scope and methodology are detailed in appendix IV. We performed our work from June 2002 to February 2003 in accordance with generally accepted government auditing standards. Contacts and staff acknowledgements are listed in appendix V.

We are sending copies of this report to interested congressional committees, the Secretary of Defense; the Secretaries of the Army, the Navy, and the Air Force; the Chairman of the Joint Chiefs of Staff; the Commander, U.S. Strategic Command; the Director, Defense Advanced Research Projects Agency; and the Director, Office of Management and Budget. We will also make copies available to others upon request. In

addition, this report will be available at no charge on the GAO Web site at http://www.gao.gov.

Please contact me at (202) 512- 6020 if you or your staff have any questions concerning this report.

Raymond J. Decker, Director
Defense Capabilities and Management

Appendix I: Status of Actions Taken to Implement Short- and Mid-Term Space Commission Recommendations

The Secretary of Defense agreed with the Space Commission's finding that the Department of Defense (DOD) needed a new and comprehensive national security space management approach to promote and protect U.S. interests in space. In a May 8, 2001, letter to the leaders of the defense and intelligence oversight committees, the Secretary informed Congress that he would take actions to improve DOD's management structure and organization for national security space actions. These actions largely represented organizational and management changes the Space Commission recommended to improve DOD's focus on national security space activities and better coordinate military and intelligence space activities.

We reported in June 2002 that DOD had implemented or was in the process of implementing 10 of the 13 recommendations the Space Commission directed to it. At that time, DOD had completed action on six recommendations and was in the process of implementing four others. The Secretary of Defense chose not to implement three of the commission's recommendations and instead opted to (1) establish a focal point for space within the Air Force rather than create an Under Secretary of Defense for Space, Information, and Intelligence; (2) increase the Air Force's responsibilities by department directive rather than requesting legislative change; and (3) direct existing organizations to conduct innovative space research and development rather than create a new organization to do so.

As table 2 shows, DOD has implemented or is nearing implementation of these 10 recommendations. DOD has completed actions to implement three recommendations that were categorized as "in progress" in our June 2002 report, as designated by the arrows in the table. Only the recommendation that the Air Force be named executive agent for DOD space remains to be finalized. However, the Air Force has taken on more leadership responsibilities over the last year based on a memorandum that expressed the Secretary's intent to have the Air Force become the DOD executive agent for space.

Table 2: Status of DOD's Implementation of Space Commission Recommendations as of January 2003

Space Commission recommendation	No action intended	In progress	Completed
The Secretary of Defense and the Director of Central Intelligence should meet regularly to address national security space policy, objectives, and issues.			☒
Secretary of Defense should establish an under secretary of defense for space, intelligence, and information.[a]	☒		
Secretary of Air Force should assign responsibility for the command of Air Force Space Command to a four-star officer other than the commander, U.S. Space Command and North American Aerospace Defense Command.		☒ →	☒
Secretary of Defense should end the practice of assigning only Air Force flight-rated officers to position of commander, U.S. Space Command and North American Aerospace Defense Command.			[b]
Air Force should realign headquarters and field commands to more effectively organize, train, and equip for prompt and sustained space operations.		☒ →	☒
Air Force Space Command should be assigned responsibility for providing resources to execute space research, development, acquisition, and operations.			☒
Amend title 10 U.S.C. to assign the Air Force responsibility to organize, train, and equip for air and space operations.[c]	☒		
Secretary of Defense should designate the Air Force as DOD's executive agent for space.[d]		☒	
Assign the Under Secretary of the Air Force as the Director of the National Reconnaissance Office.			☒
Designate the Under Secretary of the Air Force as the Air Force acquisition executive for space.[e]			☒

Space Commission recommendation	No action intended	In progress	Completed
Secretary of Defense and Director of Central Intelligence should create a research, development, and demonstration organization to focus on innovative space research and development.[f]	☒		
Secretary of Defense should direct the Defense Advanced Research Products Agency and service laboratories to undertake development and demonstration of innovative space technologies.		☒ →	☒
Secretary of Defense should establish a Major Force Program for Space.[g]			☒

Source: GAO analysis.

[a] Secretary of Defense opted to establish a focal point for space in the Under Secretary of the Air Force.

[b] This recommendation no longer applies as the U.S. Space Command has been disestablished and its missions transferred to the new U.S. Strategic Command.

[c] DOD opted to increase Air Force responsibility for organizing, equipping, and training for space operations without requesting legislative change. In August 2002, it revised its directive promulgating the functions of the department and its major components (Directive 5100.1) to reflect all services' responsibilities to organize, train, and equip space forces.

[d] The executive agent is a term used to indicate a delegation of authority by the Secretary of Defense to a subordinate to act on the Secretary's behalf. The exact nature and scope of the authority delegated may vary. It may be limited to providing administration and support or coordinating certain functions or extend to direction and control over specified resources for specified purposes.

[e] The acquisition executive is the individual charged with overall acquisition management responsibilities within his or her organization.

[f] This organization was not established.

[g] A major force program is an aggregation of related budget items that can be used to track resources that support a macro-level combat or support mission.

Appendix II: Time Line of Major Events in DOD's Implementation of Space Commission Recommendations

Date	Event
January 11, 2001	Space Commission report published.
May 8, 2001	Secretary of Defense sent letter to Congress detailing intended actions.
Oct. 1, 2001	Air Force Space and Missile Systems Center realigned from Air Force Materiel Command to Air Force Space Command
Oct. 18, 2001	Secretary of Defense issued memorandum directing actions and time lines for implementing selected Space Commission recommendations.
December 13, 2001	Under Secretary of the Air Force sworn in, after confirmation by the Senate, and appointed Director, National Reconnaissance Office, by the Secretary of Defense and the Director of Central Intelligence.
January 2, 2002	Under Secretary of Defense (Acquisition, Technology and Logistics) promulgated policy memorandum directing DOD research community to undertake research and demonstration of innovative space technologies and systems.
February 7, 2002	Under Secretary of the Air Force designated to be Air Force Acquisition Executive for space.
February 14, 2002	Under Secretary of Defense (Acquisition, Technology and Logistics) delegated milestone decision authority for DOD major space programs to the Secretary of the Air Force with authority to redelegate to the Under Secretary of the Air Force.
February 2002	"Virtual" major force program for space included in DOD's Future Years Defense Program.
April 19, 2002	Commanding general assumed command of the Air Force Space Command separate from U.S. Space Command and North American Aerospace Defense Command.
June 26, 2002	GAO interim assessment of the status of DOD's reorganization of space activities.
August 2002	National Security Space Architect space program assessment.

Appendix III: Comments from the Department of Defense

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, DC 20301-6000

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

March 20, 2003

Mr. Raymond J. Decker
Director, Defense Capabilities & Management Team
U.S. General Accounting Office
441 G. Street N.W.
Washington, D.C. 20548

Dear Mr. Decker:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) report, 'DEFENSE SPACE ACTIVITIES: Organizational Changes Initiated, but Further Management Actions Needed', dated February 19, 2003 (GAO Code 350200).'

In general, the Department concurs with the findings in the report, but offers several recommended changes to enhance accuracy. Specific comments are attached.

Sincerely,

Patricia S. Gamble
Acting Director Space Programs
ODASD(C3ISR, Space & IT Programs)

cc: DoD IG

GAO DRAFT REPORT DATED FEBRUARY 19, 2003
(GAO CODE 350200)

"DEFENSE SPACE ACTIVITIES: ORGANIZATIONAL CHANGES INITIATED, BUT FURTHER MANAGEMENT ACTIONS NEEDED"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: Require the Under Secretary of the Air Force, in conjunction with the services, to establish a department wide space human capital strategy that includes goals and timelines to develop and maintain a cadre of military and civilian space professionals

DoD RESPONSE: Concur. The DoD and Services are already laying the ground-work for a National Security Space (NSS) space human capital strategy that will be synchronized with separate Service plans, also in development, to develop and maintain a cadre of military and space professionals.

RECOMMENDATION 2: Require the Under Secretary of the Air Force to develop a comprehensive management framework for space activities that includes a results-oriented national security space strategy tied to overall department-level space goals, timelines, and performance measures to assess space activities' progress in achieving national security space goals

DoD RESPONSE: Concur. A comprehensive management framework for space activities that includes inherent performance measures and reporting mechanisms are being developed.

RECOMMENDATION 3: Include performance goals and measures for space activities in DoD's next department wide performance report

DoD RESPONSE: Concur.

RECOMMENDATION 4: Designate an oversight entity in the Office of the Secretary of Defense to periodically assess the progress of DoD's executive agent in achieving goals for space activities.

DoD RESPONSE: Concur. Currently, ASD (C3I) has responsibility to establish policy and provide direction to the DoD Components on C3I-related space systems and serves as the primary focal point for staff coordination within the DoD, with other Government Departments and Agencies.

RECOMMENDATION 5: The Secretary of Defense direct the Secretaries of the Army, the Navy, and the Air Force to develop service space cadre plans linked to the department's space human capital strategy when completed.

DoD RESPONSE: Partially Concur. Recommend changing 'develop Service cadre planes

linked to' to 'review and, as necessary, adjust Service cadre plans to ensure linkage to'. The DoD and Services are already drafting separate space cadre plans that will be synchronized and linked to an overall National Security Space human capital strategy. Cadre plans underway now are necessarily focused on service-unique career issues but do not preclude further coordination to meet Departmental goals and opportunities. The Services should not wait until a Department-wide space human capital strategy is developed to complete their individual plans.

Appendix IV: Scope and Methodology

To update the status of actions the Department of Defense (DOD) has taken to implement the Space Commission's recommendations, we identified and monitored changes in DOD's organization and management of space by reviewing DOD and service briefings and internal department directives and memoranda that identified issues and directed initiatives for improving management of space activities. We held discussions with officials from the Offices of the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) and the Under Secretary of Defense (Acquisition, Technology, and Logistics) and the Under Secretary of Defense (Comptroller/Chief Financial Officer) to discuss department guidance on implementing the recommendations and implementation activities. To identify actions the services took to improve management of space activities, we reviewed documentation of implementation actions and held discussions with Army, Navy, Air Force, and Marine Corps officials. Offices represented were the Under Secretary of the Air Force; the National Security Space Architect; the Air Force Space Command; the Air Force Space and Missile Systems Center; the 14th Air Force; the Army Space and Missile Defense Command; the Naval Network and Warfare Command; and Headquarters Marine Corps. Sites visited included the Pentagon, Washington, D.C; Peterson Air Force Base and Schriever Air Force Base, Colorado Springs, Colorado; Los Angeles Air Force Base, Los Angeles, California; and Vandenberg Air Force Base, Lompoc, California. The National Reconnaissance Office provided written answers to questions we submitted.

To determine progress in addressing some of the long-term space management challenges, we discussed challenges DOD, the Space Commission, other experts, and our previous reports have identified with officials from the Office of the Secretary of Defense; the Army; the Air Force; the Navy; the National Security Space Architect; the U.S. Strategic Command; the U.S. Northern Command; the Joint Staff; and outside experts. Given time and resource limitations, we focused our work on three of the many long-term management challenges to DOD's space program—investing in science and technology, improving the timeliness and quality of space acquisitions, and building and maintaining a cadre of space professionals. To assess progress in investing in technology, we reviewed documentation and held discussions with officials from the Defense Advanced Research Projects Agency; the Office of the Director, Defense Research and Engineering; the Office of Under Secretary of Defense (Acquisition, Logistics, and Technology); Naval Network and Warfare Command; the Naval Research Laboratory; and the Air Force Research Laboratory. To assess progress in implementing its acquisition

initiatives, we reviewed documentation and discussed the initiatives with officials representing the Office of the Under Secretary of the Air Force and the Air Force Space Command. In addition, we discussed education and training initiatives with officials from the Air Force Space Command; Air University; Air Force Academy; the Army Space and Missile Defense Command; Army Command and General Staff College; the Office of the Chief of Naval Operations; the Naval Academy; the Naval Postgraduate School; and Headquarters Marine Corps.

To assess whether DOD had a management framework that will foster the success of its improvement efforts, we reviewed departmental plans and strategies that set organizational goals and discussed oversight and management activities—including setting strategic goals, developing measures of progress, and planning time lines—with senior DOD and service officials from offices that have major responsibilities for managing space activities, including the Offices of Assistant Secretary of Defense (Command, Control, Communications and Intelligence), the Under Secretary of the Air Force, and the Air Force Space Command. We used the principles embodied in the Government Performance and Results Act of 1993 as criteria for assessing the adequacy of DOD's management framework to effectively manage and oversee the space program.

Appendix V: GAO Contacts and Staff Acknowledgments

GAO Contacts

Raymond J. Decker (202) 512-6020
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Acknowledgments

In addition to the names above, Margaret Morgan, MaeWanda Micheal-Jackson, Robert Poetta, and R.K. Wild made key contributions to this report.

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