NATIONAL RECONNAISSANCE OFFICE

NRO STRATEGIC PLAN

18 Jan
FROM THE DIRECTOR

The National Reconnaissance Office (NRO) was established by the Secretary of Defense and the Director of Central Intelligence in 1961 to manage a consolidated program to develop and operate satellite and air vehicle overflight projects for intelligence, geodesy and mapping, photography, and electronic signal collection. This mission remains the fundamental purpose of the NRO—to ensure that national policy makers and military forces have available the best space-based and selected advanced airborne collection capabilities the nation can afford. For more than three decades, the NRO has maintained technologically superior overhead imagery and signals collection systems to support the nation in peace, crisis, and war. Its challenge today is to continue that world leadership in an era of declining national security program budgets.

The NRO Strategic Plan demonstrates our commitment to mission responsiveness in an environment of geopolitical restructure, changing military needs, and fiscal uncertainty. It represents a year-long undertaking to identify and respond to the factors that are reshaping the scope of U.S. national security interests. It incorporates information from NRO-directed internal reviews and analyses, as well as data from related Intelligence Community and Defense Department studies. The Plan articulates NRO strategic objectives, macro-strategies, and implementation thrusts to respond to inputs from a broad spectrum of NRO users, customers, approval authorities, and industry managers.

The objectives of this strategic plan are far reaching and are intended to be realized over an extended period of time. Fundamentally, the plan represents a "living" process for strategic planning and management of the National Reconnaissance Program—a process to cope with, and take advantage of, change as dictated by future circumstances, priorities, and goals. The continuing constant in this process is the NRO's long-standing, firm commitment to enhance the nation's substantial return on investment from its space- and air-based reconnaissance systems. This plan seeks to build on the NRO's proven strengths while moving vigorously to change where there is either advantage or necessity.

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NRO STRATEGIC PLAN

PURPOSE

To provide strategic direction for the NRO in a changing world environment. The plan also provides a basis for focused dialogue among NRO managers regarding critical issues and choices, as well as a basis for dialogue between the NRO and its government and industry partners.

INTRODUCTION

Intelligence needs are changing substantially as a result of the collapse of the former Soviet Union and the momentous events of the last few years. The risk to the nation of failing to detect any single event is less catastrophic today, but this does not radically simplify the task of intelligence collection in general, or of overhead collection in particular.

While some traditional collection tasks, for which overhead reconnaissance was heavily used in the past, will migrate to other methods of collection, the uncertain nature of the world that is emerging from the end of the "cold war" places a heavy premium on overhead reconnaissance that provides flexible, worldwide coverage. Yet this overhead reconnaissance challenge must be met in an era of a likely reduced national security budget. This new world order creates both a challenge and an opportunity for the NRO.

Fiscal realities and changes in the world situation have placed renewed challenges and demands on the NRO. The NRO has been coping with significant budget reductions since 1989. Between 1989 and the late 1990's, the NRO baseline collection system constellation will have been drastically reduced. As a result, between 1986 and 1993, the size of the industrial work force upon which the NRO depends will have been drastically reduced. In order to cope with these and future investment impacts, the need for NRO strategic planning has become even more critical.

NRO planning for improved strategic management began in 1989 with the implementation of recommendations in the NRO sponsored Geiger/Kelly study and more recently the Fuhrman study. These include establishment of the Office of Plans and Analysis, the Deputy Director for Military Support, the consolidated Security Center, the collocation of NRO elements, and reorganization by intelligence disciplines. The Geiger/Kelly study also emphasized the need for a strong NRO-wide strategic planning process.
The DCI initiated an outside review of the National Reconnaissance Program (NRP) in the summer of 1992. Led by Ambassador James Woolsey, the Panel independently reviewed national and operational support needs, existing programs, and future possibilities. The Panel’s report recognized the continuing need for a strong NRP and the realities of declining budgets, and it recommended certain program cancellations, consolidations, and future areas for modest growth. With slight modifications, the Woolsey Panel’s findings have been adopted by the NRO and endorsed by the Intelligence Community; they constitute the programmatic baseline for this Strategic Plan.

The NRO Strategic Plan that follows demonstrates the NRO’s continuing commitment to the development and operation of responsive overhead collection systems that provide unique foreign intelligence in the context of changing needs and priorities. The NRO Strategic Plan is the “game plan” to transition current overhead collection architectures into a more integrated, end-to-end architecture for improved global access and tasking flexibility; to enhance NRO products and services to all customers and users; and to assure a viable industrial base. It is a plan for continuing the strategic advantage of overhead reconnaissance for future national security purposes at a reduced cost.

*The term customers refers to those government organizations that directly provide the NRO with collection requirements, help fund NRO projects, or have a degree of authority to integrate and validate the requirements upon which the NRO bases its developments. The NSA, DIA, CIA, and CIO are customers of the NRO. The term users refers to all organizations that make substantial use of NRO products, such as the Military Services, U.S. Commands, and intelligence analysts.*
The vision statement is the DNRO's personal view of the desired future posture of the NRO, given the planning context and its implications. It has been embraced by the leadership of the NRO as the foundation for planning, programming, and budgeting. Within the vision, the term "information" is significant in that it recognizes the need not only for overhead data but also for the additional processing and exploitation processes that are also required to transform the data into meaningful information for a user. "All users where and when needed" acknowledges the emerging larger set of users of overhead reconnaissance who require meaningful near-real-time information at worldwide sites. "Developing and operating" recommits the NRO to continue its cradle-to-grave responsibility. The NRO will establish a strategic partnership with the national security community to address the end-to-end system changes that are required to achieve this vision.

This vision stems from the recognition of a number of changing conditions that demand that the NRO--and its customers and users--critically examine what business we do and how we do it. The following key areas of change have the most critical impact.

**Geopolitical.** Significant developments have included the United States exercising its global leadership through new multinational alliances as well as radical changes in traditional threats. This circumstance has been coupled with a less predictable international situation and has resulted in a shift from sharp focus on the former USSR, national security being less "dependent" on detection of any one single event, and a global requirement for planning and targeting. Major changes in traditional target composition and priorities, and the need to develop more flexible and responsive architectures are key implications for the NRO.

**National Security Policy of the United States.** The trends in this area have been greatly affected by emerging new dimensions to our national security strategies including energy, environment, and economic competition. Major defense restructuring and changes to resulting budgets herald significant changes to intelligence and military support requirements. While many core requirements endure, a new group of consumers is emerging. Coupled with these changes is the need to increase responsiveness and flexibility of the intelligence process, as well as to develop methods to promote sharing and releasability of the information. When these needs are viewed...
In the context of reduced budgets, it must be recognized that some requirements will not be satisfied.

Congressional Issues. Support for intelligence continues to be strong among many members of Congress. Regardless, there remains an expectation within Congress of a large "peace dividend" from both Intelligence and DOD communities. The Administration and the Intelligence Community anticipate large program and personnel reductions. Implications to the NRO include the need to continue executing cost-effective and non-duplicative programs, extracting greater productivity from existing programs, providing stronger validation of new programs, and being responsive to all aspects of congressional oversight.

Intelligence Community. The current restructuring of the Intelligence Community places great emphasis on interoperability and common standards. The traditional phases of intelligence are coalescing. The need for "end-to-end" system engineering within the community and increased emphasis on interoperability and standardization has been recognized. The NRO experience and capabilities in large-scale systems engineering may be called upon to support this effort. In particular, significant military support-related architectural changes will be required with an emphasis on increased flexibility and responsiveness.

Operations Support. Rapid advances in weapons, space, communication, and information technology have made plausible the prospect of providing real-time information support for operations, such as battle execution and DESERT STORM, which one senior commander called "the first space war," demonstrated the vital importance of space-based collection and communications. These events create undeniable demands for flexible overhead collection systems with appropriate distribution architectures to meet the real-time needs of operators. The utility of NRO systems to support military operators has been enhanced by a wide variety of "Tactical Exploitation of National Capabilities" (TENCAP) programs sponsored and funded by the Military Services. Despite this supplement, some critical operational needs remain marginally addressed or unmet. Moreover, the associated processing, exploitation, and distribution architectures for imagery products—generally the responsibility of program managers outside the NRO—have not always been designed for either the volume or timeliness required to meet operators' needs. At the very least, the NRO must better incorporate the operators' needs up front as new systems are designed and as old ones are upgraded. Beyond that, the NRO—and others—must also examine new approaches toward taking advantage of technology and the NRO's unique experience and authorities for development, acquisition, and operation of overhead reconnaissance systems in order to meet growing Military Service and CINC needs for reliable real-time support from space reconnaissance systems. Some of these needs may not compete well with traditional NFIP needs and priorities. This may require some modification of NFIP and DOD requirements and programming mechanisms and certainly will demand a closer planning and operations management relationship between the NRO and other DOD elements.
Technology. Global technology proliferation and growth in the space surveillance market simultaneously offer great challenge and opportunity to the NRO. On one side of this coin is the challenge to track technology proliferation among potential enemies. The other side of the coin is the opportunity to rapidly apply emerging global technologies within NRO overhead systems and user application systems. The ongoing revolution in information processing and dissemination offers both assistance and challenge to the NRO. The implications to the NRO include the need to establish reduced development timelines, the need to develop more opportunities to incorporate and leverage commercial technology investment, and the need to effectively handle and fuse greater amounts of data. The NRO must continue to aggressively sponsor needed technologies and actively participate in technology sharing to meet future collection, processing, exploitation, and dissemination needs.

STRATEGY AND OBJECTIVES

The conditions outlined briefly above have led the NRO to establish a macro-strategy that responds to current conditions, while enabling transition to longer term strategic objectives designed to help achieve the DNRO's vision to provide information for all users where and when needed by developing and operating overhead reconnaissance systems.

MACRO-STRATEGY

The macro-strategy recognizes the conflicting pressures among sunk costs, existing infrastructure, current capabilities, near-term needs, changing needs, and future investment requirements to build and maintain needed new capability. This strategy is essentially designed to cope with the complex realities resulting from the contradictions of attempting to maintain as much capability as possible to meet current needs, while preserving investment for the future in an era of declining budgets. The macro-strategy as stated here seeks an appropriate balance.
The macro-strategy is founded on the understanding that the risk to the nation of failing to detect any single event will be less cataclysmic than would have been the case when our concern was focused on the former USSR. This fundamental change in geopolitics allows the development of reduced cost architectures through the path of steady evolution of systems and through consolidation of programs. This strategy for evolving the next generation overhead architecture is necessary to sustain the most capable overhead architecture in a decreasing fiscal environment and to assure the future viability of the NRO industrial base.

The strategy emphasizes support to military operations, which leads to enhancements that will improve synoptic broad area coverage imagery for supporting military planning and operations. Further, the macro-strategy commitment of improving overhead mission management, exploitation, and dissemination will focus on military applications such as tailoring services for targeting, expanding near-real-time services, and adopting common standards for consumer system interface solutions. Improved dissemination of imagery products will receive particular attention in designing end-to-end architectures, in partnership with the Central Imagery Office. SIGINT architectures will include military operational needs in the baseline capabilities for the future. ELINT capabilities include technical ELINT/FIS capabilities provide for viable operational ELINT.
Maintaining functionality and flexibility in all collection capabilities is a major feature of the macro-strategy. Future overhead collection needs clearly require all current program capabilities (i.e., IMINT, COMINT, Operational ELINT, Technical ELINT, FIS). All principal consumers require a combination of these collection capabilities. Flexibility in all collection capabilities is a need of many consumers, but particularly in Defense, where intelligence needs are radically changing. As budget pressures mount, the NRO will attempt to retain functionality and flexibility, potentially at the expense of capacity. For example, to retain an operational ELINT capability.

The macro-strategy commitment of assuring a viable industrial base and developing and advancing critical technologies is imperative for the future viability of the NRO mission. A strong industrial base must be sustained in order to supply innovative engineering, critical technology, and cost-effective system management. The challenge is to achieve this end in the face of a decreasing fiscal environment.

The last element of the macro-strategy addresses the potentially large end-to-end performance gains that can be achieved by a strong effort in concert with NRO partners in other government agencies, to improve overhead mission management, exploitation, and dissemination.

STRATEGIC OBJECTIVES

While the macro-strategy has near-, mid-, and long-term aspects, it is essentially designed to cope with the realities discussed above. The strategic objectives, on the other hand, were developed as a comprehensive set of enduring objectives to guide all levels of NRO planning. They were developed to respond to national security changes and to achieve the ONRO's vision.

Architectural Strategic Objectives. Three architectural objectives establish broad technical and performance goals for NRO programs for the coming decades in terms of required system attributes. These objectives are guidelines for transitioning U.S. overhead reconnaissance to a state that will better satisfy the global needs of NRO customers. Integrated solutions and end-to-end system engineering are required to assist the national security community in achieving a balanced and responsive architecture.

Enhance End-to-End System Responsiveness. This objective recognizes that user applications of overhead collected intelligence require near-real-time support. Constellations and supporting infrastructure, currently optimized for Eurasian coverage, must transition to constellations that allow rapid regional coverage anywhere in the world. An integrated end-to-end (requirements management to dissemination) architecture approach is needed to ensure responsiveness. Specific goals are
near-real-time service to operational users (military and others), balanced global access with coverage flexibility, full range sensors, and minimized development timelines.

Provide Assured Data Delivery. NRO customers and users must feel confident that they will receive overhead data responsive to their needs. The NRO will tailor information for customers and users based on their needs and application processes. To support this objective, the NRO will ensure collection and dissemination continuity, provide survivable systems consistent with requirements and fiscal realities, provide customer- and user-tailored information, and support the further releasability of data to U.S. as well as allied users.

Improve Integration of Systems. The NRO will support the integration of multidiscipline collection, processing, and dissemination; balance end-to-end architectures; integrate airborne and space constellations; emphasize both unique and complementary aspects of NRO systems; and seek a seamless national/tactical interface. These initiatives will require increased integration of the National Reconnaissance Program, Defense Reconnaissance Support Program, and Airborne Reconnaissance Support Program activities. Finally, the NRO will reduce dependency

Programmatic Strategic Objectives. These objectives represent continued commitment to programmatic values including assuring a viable industrial base and sustaining innovative technology, while seeking decreased costs. The objectives include cost control management practices as partial offsets to budget reductions while preserving NRO effectiveness.

Balance System Cost and Utility. The declining budget environment dictates more attention to this practice. Specific goals include measuring system utility at the user level; emphasizing system cost effectiveness; balancing security with cost, service, and risk; and seeking decreased total costs.

Develop Interoperable Programs. This objective addresses the need to integrate NRO systems more directly with user application systems. This includes advanced applications of intelligence for military operations, the growing number of near-real-time applications of overhead-derived intelligence, and the increasing need to integrate systems across all of the intelligence processes. Other goals include employing emerging industry and government standards and developing community agreement on system programatics and capabilities.

Pursue Pre-Eminent Technology. This objective addresses the NRO's commitment to retain its pre-eminent position in the development, exploitation, and application of technologies to overhead reconnaissance systems. Specific goals are to conduct innovative experiments, pursue NRO technology investment in mission unique areas, exploit commercial-off-the-shelf (COTS) and worldwide technology, leverage and
rapidly apply existing and developing technologies, utilize the full range of industrial and
government partnerships to leverage research and development (R&D) investment, and
expand technology sharing.

Strengthen NRO Acquisition Process. This strategic objective will build on the
existing strong mutual respect between the NRO and industry to address emerging
opportunities and new challenges. The following are specific goals: enhance
efficiencies in system acquisition, match build cycle to use cycle, broaden industry
communication and cooperation based on mutual benefits, and encourage industry to
identify new initiatives in support of NRO objectives.

Management Strategic Objectives. The NRO management objectives recognize
that managing national intelligence programs will require more understanding,
interaction, and cooperation among all customers, users, and approval authorities. Two
management objectives establish goals to facilitate these ends.

Improve External Relationships. Closer relationships with customers, users, and
Congress are needed to improve responsiveness and maintain stability of NRO
programs. This is especially true for the DOD and NRO relationship, because of the
increased dependence on NRO systems in military planning and execution. Specific
goals to be addressed include improving understanding of customer requirements and
user needs, building stronger customer and user constituencies, ensuring that all
customers and users are well informed, supporting community efforts to enhance
customer and user feedback mechanisms, and enhancing Congressional understanding
of plans and programs.

Continue To Improve Management Process. In addition to the programmatic
objective that addresses cost effectiveness and utility, several NRO management
improvements are necessary to improve organizational efficiency and to achieve the
desired cost effectiveness. Specific goals are to continue to seek, develop, and retain
the highest quality personnel with a diverse skill mix; centralize focus and decentralize
implementation; optimize investment strategies across programs; use tailored
management practices; and, finally, match security to the environment.

APPROACHES TO IMPLEMENTATION

The following approaches to implementation, called thrusts, are approaches to
the near- and mid-term achievement of the longer term enduring strategic objectives.
Many of these thrusts are substantiated in the 1994-99 National Reconnaissance
Program. Others are recommended planning initiatives but are not currently approved
for funding; the NRO will advocate their funding in future programmatic actions. The
thrusts represent the results of 2 years of internal NRO studies (including IMINT,
SIGINT, Communications, Technology, Launch, and Military Support
Roadmap developments), coalesced with Community studies and other analyses, such
as the Woolsey Panel Report and Fuhrman Report. Also included is a list of key topics, which require further study before implementation thrusts can be formulated.

ARCHITECTURAL THRUSTS

IMINT. The future IMINT Architecture will

include the LANDSAT multispectral system in an integrated program managed by NASA and DOD, and acquired by the NRO.

To deliver maximum improvements for users at least cost, the NRO has initiated a two-pronged development thrust: (1)
thereby satisfying operational timeline requirements. LANDSAT 7 (available in 1997) will have 5-meter resolution; a five-time improvement in revisit time relative to LANDSAT 6; stereo imagery with some Mapping, Charting, and Geodesy (MC&G) applications; improved thermal imaging; and four additional spectral bands.

Although the following are not part of the approved program, the NRO will pursue and future LANDSAT multipixel enhancements that move toward further improvements in resolution, MC&G capabilities, and more spectral bands.

This development approach will provide considerable improvement to imagery users by evolving toward an enhanced future architecture that builds on current collection capabilities. The IMINT Directorate will continue to focus on initiatives to achieve a fully integrated, cost-effective, and responsive architecture for the future.

The NRO ground communications infrastructure is being enhanced to provide assured availability and increased flexibility and responsiveness, to enhance coordination and end-to-end, life-cycle management of NRO systems. Where appropriate to facilitate planning, requirements,
analysis, and other NRO customer-user interaction and effective network management and control.

**Dissemination.** Improvements in the overall worldwide dissemination of information are required in order to meet customer requirements and user needs. The NRO will be proactive in working with the DOD and non-DOD communications communities to resolve dissemination issues. The NRO Communications Office, in conjunction with other Directorates and Offices, will develop the elements of a responsive dissemination architecture.

**Launch.** The NRO will continue to rely on proven launch systems and to sponsor prudent modifications to existing systems. The NRO will participate in efforts to examine needs for and desired characteristics of a next-generation space lift system.

**Military Support.** Military users will benefit from most of the NRO Architectural Thrusts identified in this Plan. To ensure that these efforts are effective, the NRO, through the Operational Support Office (OSO) and Defense Support Project Office (DSPO), will continue to pursue an aggressive training and exercise support program, building a complete continuum of coverage from initial military training through all aspects of Service training over the military member's career. Additionally, the DSPO recently initiated major DOD-related planning and architecture development programs to refine military support mechanisms and to ensure that theater collection complements the national systems. The NRO will continue active participation in operations, tests, simulations, and experiments, using its resources to demonstrate and develop improvements to support military activities. This activity includes all phases of the intelligence cycle, from requirements management through dissemination and processing. Recent examples of this sort are:

- Through the Military Exploitation of Reconnaissance and Intelligence Technology (MERIT) program and an increased cooperation with military operators and system developers, the DSPO will support end-to-end solutions for existing and new

**Environmental Support.** Environmental users and Congressional leaders have expressed an interest in making NRO system capabilities and archived data more accessible for environmental support. The NRO will participate in joint efforts with environmental scientists and other users of environmental data to consolidate requirements and assess capabilities. The NRO will support limited demonstrations of capabilities through exploitation of existing assets, both archived data and newly collected data, and establish limited programs to address operational use of current systems for support during natural disasters and other environmental crises. The NRO will work with users of environmental data to explore and advocate future changes that
would balance the use of systems between their primary intelligence missions and
environmental support.

Quick Reaction Capability (QRC). The NRO will establish quick reaction projects
to address specific, focused missions such as the possible collection of
data in response to unanticipated changes in the target
environment. The QRC will reduce the acquisition cycle by concentrating on
innovative solutions which can be quickly developed and deployed to address an identified need. The QRC capability may also provide opportunities to operationally demonstrate the application of new technologies.

PROGRAMMATIC THRUSTS

Key Industrial Base. With the consolidation and downsizing of NRO programs, there will be a reduction in the requirements for satellite production capacity. A vital thrust is to preserve unique critical engineering and manufacturing capabilities during industry consolidations. Modification of national and industrial policies will be explored to allow possible involvement of the industrial base in foreign space ventures. The NRO and industry will work together to achieve greater efficiencies in development, production, and operations while maintaining the viability of the key industrial base.

Critical Technology. The NRO's Research and Development (R&D) Program will continue to emphasize advancement of those technologies that are unique and critical to overhead reconnaissance. The NRO will also identify and leverage external technology developments that are suitable for application to overhead reconnaissance systems. Technology will be pursued in close cooperation with government and industry. Where the security of overhead reconnaissance is not clearly threatened, technology advances made by the NRO will be transferred to non-classified government and civil sectors. The NRO Technology Office will be the focus for NRO technology development and will pursue approaches to accelerate technology development and insertion. Satellites not only will serve to space qualify technology but also will provide operational mission capabilities.

Industrial Security. The NRO is committed to reduce costs and efficiency impediments created by the industrial security program when the changes can be balanced with acceptable risk. Ongoing NRO security studies are addressing selected consolidation of development and operational compartments where efficiencies can be realized. Compartments will be evaluated to facilitate cross-program and cross-discipline exchange of technology as well as to eliminate duplicate facilities.

Acquisition Management. The NRO is committed to a cost-effective management process which sustains a streamlined acquisition approach. The NRO will implement an Acquisition Management Directive (NRO Directive 7), which codifies the life cycle.
acquisition and operations responsibilities for the NRO program offices. The process includes formal independent assessments and program reviews at key decision points by the DNRO, as the NRO Acquisition Executive, and the NRO Acquisition Board (NAB), as advisers to the DNRO.

MANAGEMENT THRUSTS

Customer and User Interaction. As typified by the Government Conference and Feedback Conference hosted by the NRO in 1992, the organization is committed to full participation by customers and users in NRO strategic planning, including the development of this Strategic Plan. Increased interaction will include information exchange on proposed overhead architectures and associated programs, to ensure that customer and user needs are properly addressed. As an essential part of this thrust, the NRO has formed a new office, the Operational Support Office (OSO), which serves as the NRO’s principal agent for developing a close support relationship with operational users (national/civil/DOD) and internal NRO organizations. OSO responsibilities include providing centralized support to all operational users of NRO products and services, and coordinating NRO support to operational missions. This interface will promote the effective utilization of NRO systems in providing products that satisfy operational needs. The Defense Support Project Office will continue to be responsible for the Defense Reconnaissance Support Program (DRSP) and the Airborne Reconnaissance Support Program (ARSP) within DOD channels. The DSPO is the staff element which manages the planning, programming, and budgeting for projects contained within these TIARA budget elements. It ensures that the ARSP and DRSP budgets reflect the needs of the Military Services and U&S Commands, and it likewise functions as the military support staff of the Deputy Director for Military Support (DDMS). The Office of Plans and Analysis (P&A) will continue to be responsible for the integration of overhead reconnaissance requirements.

Security Management. The DNRO will continue to work with the DCI and the SECDEF to explore and advocate additional changes that would balance security with cost, service, and risk. The potential removal of special security restrictions on products would facilitate delivery to customers and users and also would reduce overall system costs. Other security practices will be developed and adopted that will provide cost savings and/or improved service to customers, while being prudent and consistent with an acceptable risk.

Enhanced Congressional Relationship. The Legislative Liaison organization of the NRO will continue to serve as the focal point for managing and directing all congressional interfaces for NRO/DSPC programs and for advising management on Congressional issues. The NRO will strive to be more proactive in its relationship with Congress by offering briefings, papers, tours, and other pertinent data of interest to members of Congress and its staff.
Strengthen DOD/NRO Relationship. The NRO will be proactive in developing a more effective interface with DOD, while maintaining a streamlined acquisition process. Because of the DOD's increasing use and integration of NRO systems in DOD operational planning and execution, the position of DDMS was established to oversee all aspects of the NRO military support mission and to manage the Military Support Staff. Through the DDMS, the NRO will develop mechanisms to improve communication and information exchange between the NRO, OSD, service staffs, and operational users. Strengthening the Plans and Analysis Office, the Defense Support Project Office, and the Military Support Staff and establishing a unique Operational Support Office are key elements of this thrust.

Continue Organizational Restructuring. The NRO will continue necessary actions that provide a more efficient and responsive organization. Examples of the organizational restructuring activities include the realignment of the NRO program offices into SIGINT and IMINT Directorates and the collocation and consolidation of the program offices in the Northern Virginia area.

KEY TOPICS REQUIRING FURTHER STUDY

NRO System Transition. The collection systems raise many transition issues. Transition plans are being developed.

Mission Management and Exploitation. Improvements in the management of overhead resources and the exploitation of collected data are required if the overall end-to-end system performance is to be enhanced.

Seamless National/Tactical Interface. The goal is the development of seamless interfaces among systems funded by the National Reconnaissance Program, the Defense Reconnaissance Support Program, and other activities. Aspects of these interfaces include cross-tasking, complementary coverage, common dissemination standards, and training standards. In addition, we must consider new approaches to system design and use of technology to support real-time operational needs. This will require addressing management and technical issues that cross traditional boundaries.

Future Weapon System Trades. The NRO will support tactical weapon system designers, developers, and operators in the understanding of the capabilities of overhead systems. In addition, the NRO will participate in system engineering studies addressing Furthermore, in recognition of the user need for battlefield surveillance and targeting
support, the NRO is investigating the utility of satisfying this need by using overhead reconnaissance resources.

**End-to-End Architectures and System Engineering.** In order to meet the challenge of near-real-time service in a synergistic fashion, there is a recognized need for system engineering support across the traditional phases of intelligence, from requirements management, tasking, collection, processing, dissemination, and exploitation to product delivery. While each phase contributes significantly to overall system performance, responsibility remains segmented. Given limited investment opportunities, it is prudent to view the intelligence system as a whole and identify the high leverage points to focus investment for maximum payoff. The NRO will contribute its system engineering skills in joint community efforts to develop balanced end-to-end system solutions which better serve the end user. From a managerial perspective, agreements must be reached with other community elements, e.g., CMS, CIO, NSA, and C4I, to establish functional responsibility for developing end-to-end architectures. The NRO will take a proactive role to achieve these agreements.