

REPORT OF THE NATIONAL COMMISSION FOR THE REVIEW OF THE NATIONAL RECONNAISSANCE OFFICE

THE NRO AT THE CROSSROADS

"No one wants another Pearl Harbor. This means that we must have knowledge of military forces and preparations around the world."

President Dwight D. Eisenhower

NOVEMBER 1, 2000



FOREWORD

The National Commission for the Review of the National Reconnaissance Office (NRO) is one of several Commissions that have been chartered in recent years to review the various intelligence and security institutions charged with maintaining the national security of the United States. The Commission's review is significant because the NRO provides unique intelligence capabilities that are vital to maintaining our national security.

This formerly secret spy agency develops, acquires and operates the most sophisticated satellite reconnaissance systems in the world. These satellites play a crucial role in protecting U.S. national security interests at home and around the world.

However, since the end of the Cold War, NRO programs previously viewed as vital to the nation's survival have become immersed in much of the normal governmental process. As a result, they no longer enjoy the personal involvement of the President or his senior advisors.

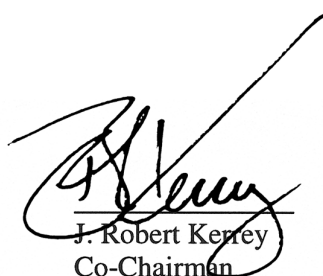
NRO program budgets, along with other intelligence program budgets, have been constrained and modernization has been delayed for several years. This circumstance has taken its toll on national reconnaissance capabilities. Moreover, this trend comes at a time when the plethora of threats facing the United States has never been more complex. Additionally, the proliferation of commercial imaging technologies and other public sources of information are providing our adversaries with unprecedented insight within our national borders, as well as into our overseas activities.

Equally problematic, widespread knowledge of the NRO's existence and public speculation on how NRO satellites are used has aided terrorists and other potential adversaries in developing techniques of denial and deception to thwart U.S. intelligence efforts. Similarly, other technologies, such as fiber optic communications, render certain NRO capabilities obsolete. Add to this the fact that the number of continuing U.S. military commitments and other U.S. interests around the globe that require continuing support is stressing the capacity of U.S. reconnaissance assets, and the result is a prescription for a potentially significant intelligence failure.

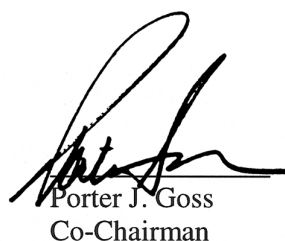
The Commission believes that these circumstances and the risks they pose to the security of the United States are so important that the results of its review of the NRO should be set forth to the maximum extent possible in this unclassified Report. In it, the Commission has underscored the need for leadership, direction and participation by the President in setting priorities and ensuring that adequate resources are provided to enable the NRO to develop innovative space-based or space-related solutions to meet the most difficult intelligence problems facing the United States.

Equally important is the need for a close and sustained working relationship between the Secretary of Defense and the Director of Central Intelligence who share in the management and oversight of the NRO. These individuals are key to ensuring that the NRO maintains technological superiority, despite the inevitable pressures to continue maintaining current capabilities at the expense of essential modernization.

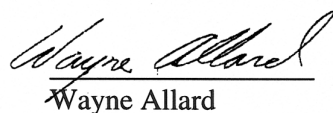
The Commission believes it is vital that this review of the NRO and the resulting recommendations be considered as part of a comprehensive and overarching national security policy and strategy. This will help ensure that the proper array of intelligence capabilities is available for the continued survival and security of the United States in the 21st Century.



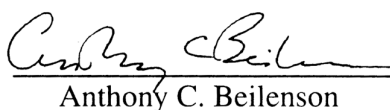
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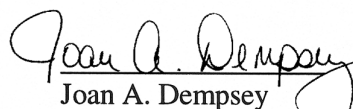
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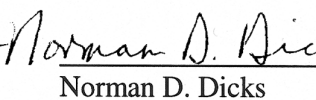
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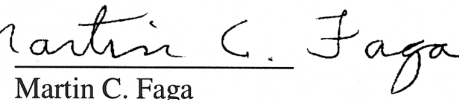
Larry D. Cox



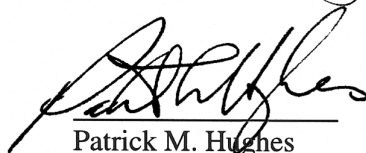
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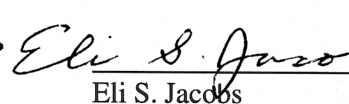
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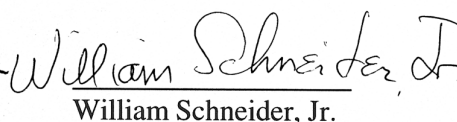
Martin C. Faga



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ORGANIZATION OF THE REPORT

The Executive Summary of the Report (pages 1-19) is intended to be a “stand-alone” document that summarizes only the most critical of the Commission’s findings and recommendations. Thus, the Executive Summary differs somewhat in organization and structure from the main body of the Report (pages 21-76) and does not contain all the Commission recommendations, which are listed separately in Appendix A (page 77). Detailed historical and special subject Appendixes are also included at the end of the Report (pages 83-183).

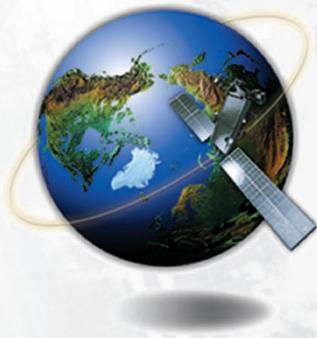


TABLE OF CONTENTS

Foreword	.iii
Organization of the Report	vii
Executive Summary	1
Changes in The National Security Environment	1
Overall Finding and Conclusion	4
Summary of the Commission's Key Findings and Recommendations	5
The Evolving Role of the NRO	21
The NRO Mission	21
Organizational Change	22
Changing NRO Responsibilities	26
NRO Technological Innovation	32
Preparing The NRO For The Future	35
The Office Of Space Reconnaissance	39
The Secretary of Defense-Director of Central Intelligence Relationship	44
Balanced Response to Customer Demands	49
Defense Space Reconnaissance Program (DSRP)	55
Increased Resource and Budgetary Flexibility	59
NRO Technical Expertise	60
Increased Launch Program Risks	63
Commercial Satellite Imagery	67
NRO Airborne Reconnaissance Responsibilities	75
Appendixes	
A. List of Recommendations	77
B. List of Witnesses	83
C. List of Interviews	89
D. Historical Development of The Secretary of Defense— Director of Central Intelligence Relationship With The NRO	103

E. Pioneers in Space Reconnaissance: A Brief History of The NRO	115
F. NRO Acquisition Strengths	121
G. Commission Member Biographies	135
H. Legislation Authorizing the Commission	143
I. Relevant Statutory And Executive Order Provisions	157
J. Glossary of Acronyms	181
K. Commission Staff	185



EXECUTIVE SUMMARY

Changes in The National Security Environment

The Commission found that NRO reconnaissance satellites have had a crucially important role during the past four decades in providing American Presidents a decisive advantage in preserving the national security interests of the United States. These satellites, which can penetrate hostile and denied areas with no risk to life and rapidly deliver uniquely valuable information, have allowed a succession of Presidents to make informed decisions based on critical intelligence and to respond appropriately to major crises, threats and challenges to U.S. interests. Without them, America's history and the world's could have been dramatically different.

For 40 years, the NRO has pioneered technical marvels in support of space reconnaissance. Quite literally, the NRO's achievements in space have provided the nation its "eyes and ears" for: monitoring the proliferation of weapons of mass destruction and compliance with arms control agreements; tracking international terrorists, narcotics traffickers and others who threaten American lives and interests around the world; providing operational intelligence and situational awareness to our armed forces in situations ranging from combat to peacekeeping; and helping to anticipate and cope with disasters, ranging from wildfires in the American West to volcanic eruptions in the Pacific to humanitarian crises in the Balkans.

In many ways, the risks to the security of the United States from potentially catastrophic acts of terrorism and weapons of mass destruction and mass disruption are more complex today than those the United States confronted

during the Cold War. The number of extended U.S. military commitments and other U.S. interests around the globe that require continuing support is stressing the capacity of NRO reconnaissance systems and the Intelligence Community to detect critical indications and warnings of potentially threatening events. Further, the NRO does more than just build satellites. Integrating all-source intelligence requires it to produce new technologies. Together, these and other evolving conditions place an enormous premium on maintaining a strong space reconnaissance capability.

NRO capabilities have been available for the past 40 years because President Dwight Eisenhower and his successors clearly understood the

Terrorism Poses New Challenges To U.S. National Security Interests



Nairobi Embassy



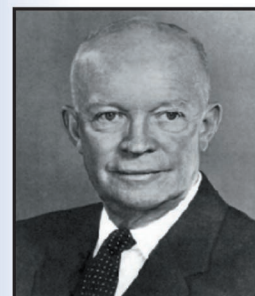
Khobar Towers



USS Cole

Great technical advances do not come without trial...and some errors

"Let's not worry about the failures. Let's stay with it. It is so important and we need it. We need to just keep going with it."



President Eisenhower

significance of space reconnaissance to our national security. They had the tenacity and determination to endure the many risks and failures inherent in space technology, and they personally directed and sustained the investment needed for its development. The United States is far more secure today because of this prior investment, commitment and level of personal attention.

However, the clarity of mission and sense of urgency that led past Presidents and Congresses to invest in the future of space reconnaissance dissipated with the Cold War's end. The disappearance of a single large threat has provided a false sense of security, diverting our attention from national security issues and, for the NRO, resulting in under-investment. Unfortunately, this false sense of security has been accompanied by a particularly ill-timed lack of policy direction to the NRO from senior officials. This comes at a time when the array of threats facing the United States has never been more complex and the demands on the NRO from new customers have never been more intense.

Users of the intelligence provided by the NRO's satellites have long competed for priority. But now, the number of these customers has expanded dramatically. Advances in military technology have led military customers to develop a voracious appetite for NRO data. At the same time, non-military customers increasingly demand more information from the NRO regarding a broad array of intelligence targets. Also, dynamic changes throughout the Intelligence Community and enormous growth in information technology are significantly affecting the NRO. In the absence of additional resources, the NRO is being stretched thin trying to meet all its customers' essential requirements.

We believe the American people may assume that space-based intelligence collection matters less today than it did during the

Cold War at a time when, paradoxically, the demand for the NRO's data has never been greater.

This Report stresses the need for decisive leadership at the highest levels of the U.S. Government in developing and executing a comprehensive and overarching national security policy and strategy that sets the direction and priorities for the NRO. **Ensuring that the United States does not lose its technological “eyes and ears” will require the personal attention and direction of the President, the Secretary of Defense and the Director of Central Intelligence (DCI).**

There has been and will continue to be understandably heavy pressure to maintain current, aging capabilities rather than to bear the expense of riskier modernization and development of advanced technologies. Without bold and sustained leadership, the United States could find itself “deaf and blind” and increasingly vulnerable to any of the potentially devastating threats it may face in the next ten to twenty years.

Overall Finding and Conclusion

The Commission concludes that the National Reconnaissance Office demands the personal attention of the President of the United States, the Secretary of Defense and the Director of Central Intelligence. It must remain a strong, separate activity, with a focus on innovation, within the Intelligence Community and the Department of Defense. Failure to understand and support the indispensable nature of the NRO as the source of innovative new space-based intelligence collection systems will result in significant intelligence failures. These failures will have a direct influence on strategic choices facing the nation and will strongly affect the ability of U.S. military commanders to win decisively on the battlefield.

Summary of the Commission's Key Findings and Recommendations

Changing NRO Responsibilities

Throughout its history, the NRO has met the challenge of providing innovative, space-based reconnaissance solutions to difficult intelligence problems. Since the earliest days of the Corona spy satellites, when the NRO developed the first space-based photographic capability, the NRO has remained on the leading edge of space technology.

The NRO's success at innovation has been made possible by:

- involvement by the President and the joint Secretary of Defense-DCI responsibility for management of the NRO;
- its status, under the NRO Director, as the **only** Government office responsible for developing space reconnaissance systems;
- staffing by Department of Defense (DoD) and Central Intelligence Agency (CIA) personnel;
- adequate funding with sensible reserves;
- a high degree of secrecy;
- technological depth focused on developing space reconnaissance solutions to difficult intelligence problems; and
- experienced program managers empowered to make decisions and requiring minimal oversight.

It is important that the NRO remain focused on its primary space-based reconnaissance mission. It is equally important that both the NRO's special talents and the institutional foundation that has facilitated its success for four decades be carefully preserved.

The NRO has often approached its mission from an “end-to-end” perspective. The NRO did more than build satellites to collect information. It also built capabilities to task the satellites, process the data collected and disseminate the information to its primary users. By taking this comprehensive approach, the NRO was able to develop high-performance satellite systems that better served its customers’ needs.

However, the structure of the Intelligence Community has changed since the NRO’s earliest days. New organizations exist and many intelligence functions are now shared. Tasking, processing, exploitation, and dissemination (TPED) functions are dispersed throughout the Intelligence Community. In this changed environment, some officials are concerned that the NRO is duplicating efforts in areas for which other agencies now have primary responsibility.

The National Imagery and Mapping Agency, the National Security Agency, and the Central MASINT [measurement and signature intelligence] Organization bear primary responsibility for managing the tasking and dissemination of information collected by NRO satellites, and processing of intelligence data is shared among these same organizations. At the same time, the NRO is responsible for ensuring its satellites operate efficiently and effectively.

In developing TPED processes in connection with its own systems, the NRO often has developed innovative solutions to difficult problems in these areas. To encourage development of creative solutions in the future, the Commission believes it important that the delineation of responsibilities for TPED be carefully and regularly evaluated by senior officials in order to avoid duplication and enhance Intelligence Community efficiency and effectiveness. (See page 26 for further discussion.)

The Secretary of Defense and Director of Central Intelligence must direct that the NRO mission be updated and focused as a first priority on the development, acquisition and operation of highly advanced technology for space reconnaissance systems and supporting space-related intelligence activities, in accordance with current law.

The Secretary of Defense and Director of Central Intelligence should determine the proper roles for the NRO, National Security Agency, National Imagery and Mapping Agency, and Central MASINT Organization in tasking, processing, exploitation, and dissemination activities.

NRO Technological Innovation

Over time, the NRO has gained a well-deserved reputation as the preeminent research, development and acquisition (RD&A) organization in the Intelligence Community and DoD. As a result of changes in recent years, however, some claim the NRO has lost its streamlined acquisition and integration capability and its ability to develop and apply new technologies rapidly.

The Commission believes NRO leadership is doing its best in emphasizing RD&A; in accepting new ideas, concepts and base technologies from any source; and in applying “leap ahead” and “revolutionary” technologies to its work. The NRO’s focus is, as it should be, on technologies that will enhance, improve, or fundamentally change the way in which the United States engages in space-based reconnaissance.

The NRO’s development and application of new technologies has sometimes been limited by a resource-constrained budget process. The budget process is not well suited to making judgments about the value of developing new technology. In these circumstances, recommendations from the Intelligence Community,

Office of Management and Budget, or other budget staffs regarding whether or not to provide resources for an NRO program should not be made without the benefit of clear guidance from senior officials based upon the value of the technology being developed in the NRO program. Decision-makers must ensure that they are provided personally with the technical understanding needed to assure that the decisions they make with regard to NRO technology innovation efforts are informed decisions. (See page 32 for further discussion.)

The President of the United States, the Secretary of Defense and the Director of Central Intelligence must pay close attention to the level of funding and support for the NRO Director's research, development and acquisition effort.

The Secretary of Defense and Director of Central Intelligence should ensure common understanding of the NRO's current and future capabilities and the application of its technology to satisfy the needs of its mission partners and customers.

Office of Space Reconnaissance

From its beginning, NRO success has been based upon several special attributes. Among these have been: the personal attention of the President; a close partnership between the Secretary of Defense and the Director of Central Intelligence; a single Director and organization with technological expertise focused on space reconnaissance on behalf of the DoD and CIA; experienced CIA and military personnel and program managers; and a strong cloak of secrecy surrounding its activities.

Over time, these attributes have eroded. The Commission observes that one of the most important changes is that implementation of the Secretary of Defense-DCI partnership has been

delegated to lower-level officials. Also, the NRO Director is caught in the middle of an intense debate regarding whether strategic or tactical intelligence requirements should have higher priority in NRO satellite reconnaissance programs. The personnel practices of other organizations are discouraging NRO personnel from seeking repetitive assignments within the NRO. The NRO has become a publicly acknowledged organization that openly announces many of its new program initiatives.

These changes are a direct response to the circumstances described earlier. While many of the changes have been warranted, they have had a limiting effect on the NRO's ability to attack the most difficult intelligence problems quickly with the most advanced space reconnaissance technology. Perhaps more importantly, they have weakened the foundation of congressional and presidential support upon which the NRO's success has been built.

The Commission believes structural change is needed. A new office should be established that, by recapturing and operating under the NRO's original attributes, will respond more effectively to technological challenges in space reconnaissance. The Commission suggests this office be called the Office of Space Reconnaissance.

This would require that the Secretary of Defense grant this Office special exemptions from standard DoD acquisition regulations. It would rely heavily upon the DCI's special statutory authorities for procurement. It would be under the direction of the NRO Director, but would operate in secure facilities separated from NRO activities. It would create and defend a separate budget element within the National Foreign Intelligence Program and have its own security compartment. It would have a small CIA and military staff and senior and experienced program managers, and would also rely heavily upon the creativity of the contractor community for its work. It would respond, through a special Executive

Committee, to direction from the President, the Secretary of Defense and the DCI. The new Office would attack the most difficult intelligence problems by providing advanced technology that will lead to frequent, assured, global access to protect U.S. national security interests.

The Commission emphasizes that creation of the Office of Space Reconnaissance does not diminish the fundamental importance of the NRO and its mission. Under this approach, the NRO would continue to serve the broad and growing strategic and tactical customer base. It would also continue to evaluate and apply leading edge technology to meet the needs of those customers, and to confront and overcome the intelligence challenges facing the Intelligence Community and DoD. (See page 39 for further discussion.)

The Secretary of Defense and the Director of Central Intelligence should establish a new Office of Space Reconnaissance under the direction of the Director of the NRO. The Office should have special acquisition authorities, be staffed by experienced military and CIA personnel, have a budget separate from other agencies and activities within the National Foreign Intelligence Program, be protected by a special security compartment, and operate under the personal direction of the President, Secretary of Defense and Director of Central Intelligence.

The Secretary of Defense-Director of Central Intelligence Relationship

The NRO serves both the Secretary of Defense and the DCI. In the NRO's early days, several agreements established the relationship between the Secretary of Defense and the DCI. Today, the NRO is operating under agreements between these two officials, all of which are at least thirty-five years old.

Space has proven to be the most effective means for gaining frequent, assured access to denied areas on a global basis. The NRO's history is filled with successes in answering intelligence questions asked by military and civilian leaders who faced difficult national security challenges.

The Commission evaluated the desirability of recommending the creation of an "NRO statute." Such a law could firmly secure the NRO's position in the national security community. After debate, the Commission concluded that congressional action in this regard could make the situation worse, rather than better. It believes senior level Executive Branch attention should be sufficient at this time.

Therefore, in order to achieve the most cost-effective means for gaining global access to denied areas, the President, Secretary of Defense and Director of Central Intelligence must work closely together to direct the NRO's efforts. (See page 44 for further discussion.)

The President must take direct responsibility to ensure that the Secretary of Defense and Director of Central Intelligence relationship regarding the management of the NRO is functioning effectively.

Balanced Response to Customer Demands

Developments in information technology have both benefited and challenged the NRO. Because of these developments, information the NRO collects is more readily available to tactical military commanders and plays a significant role in gaining information dominance. As a result, military theater and tactical commanders increasingly expect and demand NRO support.

The NRO's global presence also continues to provide senior strategic decision-makers with information essential to their

understanding of the international environment. As has been the case since its earliest days, the NRO's satellites acquire information other intelligence sources are unable to provide. Its satellites furnish a unilateral, low profile, zero risk, and secure means of collecting highly sensitive intelligence. They support diplomacy, prevent war, aid the war on drugs, monitor the development of weapons of mass destruction, and help thwart terrorist activities.

Customer demands, however, exceed the NRO's capabilities. As is the case with all U.S. national security activities today, the NRO's budget is constrained and it competes for resources with other intelligence agencies that are also facing new challenges created by the changing threat and the explosion in information technology.

Because it responds to both the Secretary of Defense and the DCI, the NRO frequently is caught between the competing requirements of both DoD and non-DoD customers, all of whom expect to be satisfied by NRO systems. With its systems over-taxed and unable to answer all demands, yet attempting to be "all things to all agencies," the NRO often bears the brunt of criticism from all sides.

Because of these pressures, the NRO is a strong and persistent advocate for greater resources in an era of limited Intelligence Community budgets. However, the Commission's recommendations are focused on balancing competing needs because it is not possible simply to "buy" a way out of the problem. (See page 49 for further discussion.)

The Secretary of Defense and the Director of Central Intelligence must work closely together to ensure that proper attention is focused on achieving the appropriate balance between strategic and tactical requirements for NRO systems, present and future.

Defense Space Reconnaissance Program

In response to the long-standing need for the NRO to develop space reconnaissance assets that respond to both strategic and tactical requirements, the Defense Support Project Office was established in 1981. The NRO Director also served as the Director of that Office.

The Office was responsible for the annual development of the Defense Reconnaissance Support Program (DRSP) contained in the DoD Tactical Intelligence and Related Activities (TIARA) Program. DRSP funds generally were used to pay for NRO activities that were necessary to satisfy military-unique space reconnaissance requirements.

In 1994, DRSP funding was substantially reduced. Responsibility for satellite acquisition and infrastructure costs was shifted to the National Reconnaissance Program. The name of the DRSP was changed to the Defense Space Reconnaissance Program (DSRP), which became focused on educating military customers on how to use NRO systems more effectively. These changes ended DoD's direct funding of NRO reconnaissance systems and took place even as DoD's appetite for NRO information was growing substantially in response to the military's experiences in the Gulf War.

The debate over which customers should have higher priority for NRO space reconnaissance capabilities is partly the result of the need to allocate scarce funds. Experience since 1994 suggests that certain programs to support tactical military requirements have had increasing difficulty competing for funds within the National Reconnaissance Program (NRP). This is because NRP spending to address those requirements consumes resources appropriated to the National Foreign Intelligence Program (NFIP). Some believe those requirements should be supported by

intelligence funding taken from the DoD budget. Thus, the debate often is not about whether the NRO should undertake an activity, but rather how the NRO will fund it.

The Commission believes it is time to re-establish funds within the DoD budget that will pay for the acquisition of systems and sensors designed to support tactical commanders. If certain NRO acquisition decisions were made part of a DSRP budget process in this way, the military's Unified Commands would be directly involved in setting priorities for future space reconnaissance systems. Further, budget pressures on the NFIP would be reduced by such direct DoD funding for NRO systems. (See page 55 for further discussion.)

The Secretary of Defense, in consultation with the Director of Central Intelligence, should re-establish the Defense Space Reconnaissance Program as a means of funding tactical military requirements for NRO systems and architectures.

Increased Resource and Budgetary Flexibility

Budget constraints affect the entire National Foreign Intelligence Program (NFIP). As each Intelligence Community activity strives to meet new challenges, it competes with other NFIP activities that have strong claims for resources. The dynamic budgetary environment and the diffuse national security threats require flexible measures for shifting resources to meet rapidly changing priorities.

The Director of Central Intelligence is responsible, in consultation with the Secretary of Defense, for the creation of the NFIP. This clear responsibility, however, is not matched by a similar responsibility for actual expenditure of the funds after they have been authorized and appropriated to the NFIP by Congress. Under current law, the Director may not shift such funds between

intelligence activities if the affected Secretary or department head objects.

The Commission's principal concern is the potential limit that this provision of current law places on the DCI's ability to shift resources to match quickly changing priorities in a dynamic intelligence environment. While the Commission recognizes this issue extends beyond the NRO, it believes it is of such significance for the NRO that a recommendation to remedy the situation is warranted. (See page 59 for further discussion.)

The Director of Central Intelligence should be granted greater latitude to redirect funds among intelligence collection activities and agencies in order to respond most effectively to the specific types of issues that arise in NRO programs.

NRO Technical Expertise

The NRO's historic success is directly attributable to the high quality and creativity of its DoD, CIA and contractor workforce. Until the recent past, many military and civilian Government personnel served the majority of their careers as part of the NRO. Some never returned to their parent organizations for any appreciable length of time. This allowed a highly skilled cadre of personnel to advance within the NRO structure, gaining relevant experience in various positions of greater responsibility as they rose in rank.

New personnel assignment practices adopted by other organizations, such as the Air Force, have had the effect of limiting the tenure of personnel assignments to the NRO. There is a resulting concern that the NRO could lose its ability to sustain the cadre of highly-skilled and experienced personnel it needs to guarantee mission success because rotational assignments back to their parent organizations appear to be a requirement for career

advancement. In some cases, this cadre of personnel is prevented from obtaining equivalent broad space-related experience during these rotational assignments. While it is understandable that a parent organization may want to exploit the special skills its personnel develop in the NRO, the cost to NRO space reconnaissance programs may be greater than the value of broader experience to these other organizations.

The Commission believes there is a compelling need for a separate NRO career path and assignment policy that provides an opportunity for selected highly trained engineers, acquisition professionals and operations specialists to be assigned to the NRO on a long-term basis and progress through a broad range of NRO positions. The technical complexity of NRO systems is unique, and it requires the continuity of a dedicated cadre. The Commission believes the high quality and creativity of the NRO's military, CIA and contractor workforce must be sustained. (See page 60 for further discussion.)

The Secretary of Defense and the Director of Central Intelligence should jointly establish NRO career paths to ensure that a highly skilled and experienced NRO workforce is continued and sustained.

Increased Launch Program Risks

The U.S. Government's national security space program is proceeding along several parallel paths. At the same time the NRO is embarking upon new satellite acquisition programs, the Air Force is transitioning its launch program to the Evolved Expendable Launch Vehicle (EELV) family of space launch vehicles. The NRO relies upon the Air Force to provide its launch capability. Thus, all the new NRO satellites are to be launched on the new EELV.

Historically, spacecraft and launch vehicle development programs have failed to meet original estimated delivery dates. In addition, the spacecraft and launch vehicles that initially emerge from new developmental programs carry a significantly increased risk of unforeseen difficulties. In the past, the effects of delays and launch failures could be mitigated because robust satellite capabilities were on orbit or sufficient launch vehicles were available as a back-up. Today, the fragility of the satellite and launch vehicle architectures offers no margin for error.

The Commission is alarmed that there appears to be no comprehensive strategy to address the increased risks presented by simultaneously developing new reconnaissance satellites and launch vehicles. This contributes to an already uncertain situation where new satellites will be launched on new boosters. (See page 63 for further discussion.)

The NRO Director, with the support of the Air Force Materiel Command and Space and Missile Systems Center, should develop a contingency plan for each NRO program or set of programs. These plans should describe risks, contingency options and failure mitigation plans to minimize satellite system problems that might result from satellite or launch vehicle failures.

Commercial Satellite Imagery

Rapid technological developments in the commercial space industry are yielding capabilities that could usefully supplement U.S. Government-developed space reconnaissance systems. Although a National Space Policy exists that promotes the use of the products and services of the U.S. commercial space industry, the Commission did not find any executable plan, budget, or strategy that promotes the use of commercial satellite imagery.

The Commission supports Government purchases of one meter and one-half meter resolution commercial imagery, which can meet a large percentage of U.S. Government imagery requirements. The Commission believes there is a need for an overall assessment—independent of the NRO—of the utility of commercial technologies to supplement traditional NRO missions.

NRO imagery is provided to Government users “free of charge,” while in many cases those same users have to use current funds to pay for commercial imagery. It is hardly surprising, therefore, that they find commercial imagery less attractive even as their demand constantly increases for the “free” NRO imagery. If commercial imagery is to achieve its potential to reduce the demands on NRO systems, decisions regarding the use of commercial imagery must be made on an even footing with decisions about the use of NRO-provided imagery.

The Presidential Decision Directive (PDD-23) that establishes U.S. policy regarding exports of remote sensing technology and data may be inhibiting effective U.S. responses to proliferation of such technology internationally. The Commission urges the next Administration to re-examine this Directive in light of recent experience. (See page 67 for further discussion.)

A clear national strategy that takes full advantage of the capabilities of the U.S. commercial satellite imagery industry must be developed by the President, Secretary of Defense and Director of Central Intelligence.

The strategy must contain a realistic execution plan—with timelines, a commitment of the necessary resources and sound estimates of future funding levels.

NRO Airborne Reconnaissance Responsibilities

Until the early 1990's, the NRO also developed high altitude airborne reconnaissance systems, such as the SR-71 aircraft. In fact, a 1964 DoD Directive that remains in effect assigns responsibility for strategic airborne reconnaissance to the NRO.

Too often, space reconnaissance and strategic airborne reconnaissance are viewed as mutually exclusive capabilities. In fact, they are quite complementary and contribute unique support to a tiered concept of intelligence collection.

To achieve and maintain a proper balance between space-based and airborne reconnaissance, the Commission believes the NRO needs to restore its interest in airborne platforms and participate in engineering studies to select the proper platform for the required mission. (See page 75 for further discussion.)

The NRO should participate jointly with other agencies and departments in strategic airborne reconnaissance development. Specifically, the NRO should supply system engineering capabilities and transfer space system technologies to airborne applications.



THE EVOLVING ROLE OF THE NRO

The NRO Mission

The National Reconnaissance Office (NRO) develops, acquires, and operates our nation's most sensitive space reconnaissance

National Reconnaissance Office (NRO) satellite systems collect raw data that are processed into a usable product by the NRO and provided to one of its mission partners for exploitation, analysis and dissemination of the final intelligence product to the customers that originally requested the information.

satellite systems. These systems collect imagery intelligence (IMINT), signals intelligence (SIGINT)

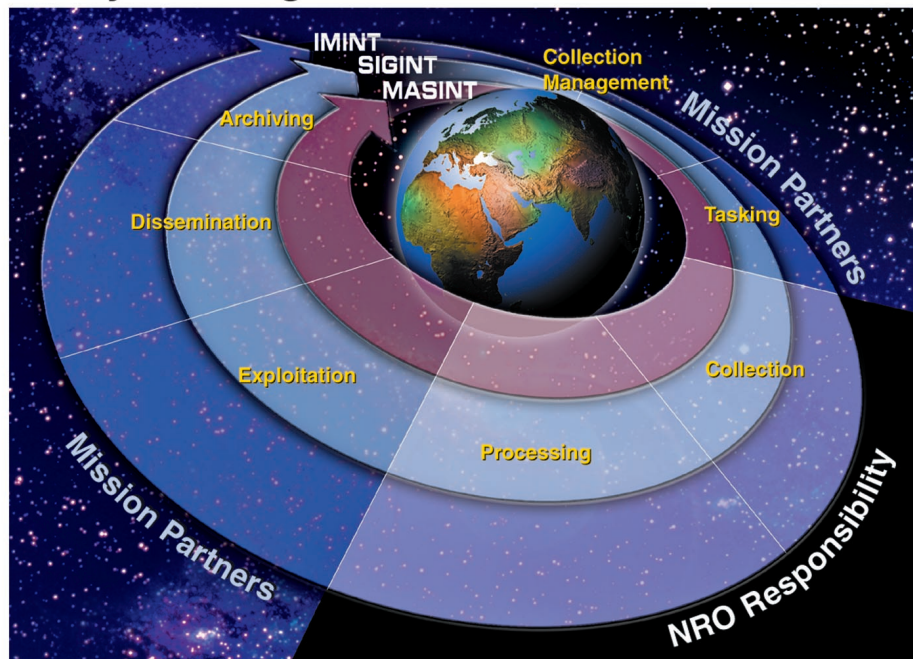
and measurement and signature intelligence (MASINT) of great value to the U.S. Government.

Until 1992, the existence of the NRO was classified and even its name was not officially acknowledged by the government. Access to the data collected by its satellites was confined to a limited set of customers within highly classified intelligence channels. Today, the existence of the NRO is openly acknowledged and several aspects of its activities have been declassified. Additionally, the data collected by NRO satellites are now available to a wide variety of users in many U.S. Government agencies.

The NRO collects data via its satellites in response to requirements that are established by its customers—the end users of its products. Those requirements are screened through Intelligence Community processes that adjudicate competing requirements and set the priorities for collection. The prioritized requirements are then passed to the NRO for collection by its satellite systems.

NRO satellites collect raw data that are processed by the NRO and then provided to one of its mission partners: the National Security Agency (NSA) for SIGINT, the National Imagery and Mapping Agency (NIMA) for IMINT, or to the Central MASINT Organization (CMO) for MASINT. These entities are responsible for exploitation, analysis and dissemination of the final intelligence product to the customers that originally requested the information. (See graphic “Today’s Intelligence Process,” which highlights the responsibilities of the NRO in relation to its mission partners.)

Today's Intelligence Process



Organizational Change

During its early years, the NRO was primarily involved in developing first-of-a-kind satellite systems for a limited number of strategic intelligence and military customers, and for the most part focused against a single intelligence target—the Soviet Union and the Warsaw Pact. At the outset, the NRO was small and agile. It also had the flexibility and authority to make rapid

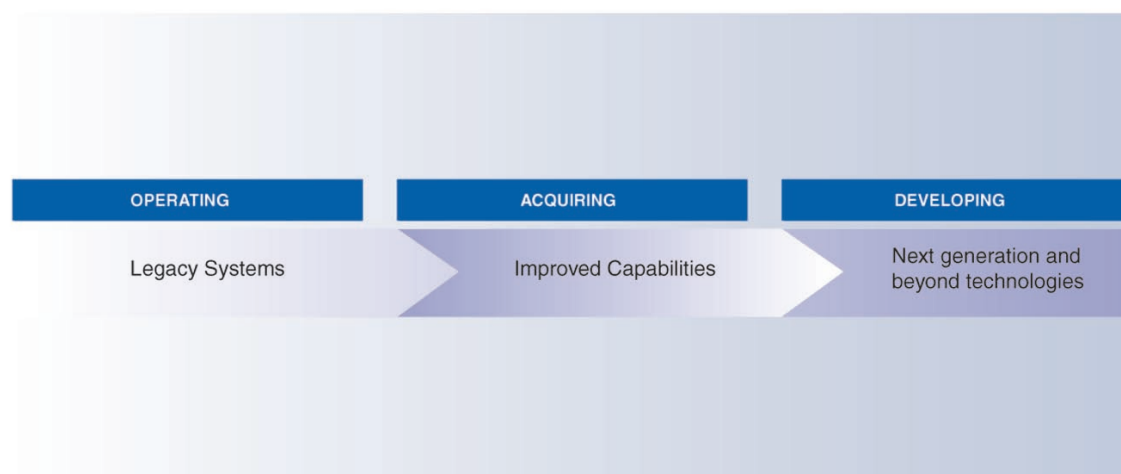
The significant degree of change in a relatively short period of time has put great strain on the NRO and its personnel and has presented a continuing series of challenges to senior NRO managers.

decisions to pursue high-risk technologies in response to objectives established by the national leadership. As a result, the NRO was able to develop airborne and satellite reconnaissance systems that provided a decisive edge to the United States in its decades-long confrontation with the Soviet Union.

Today's NRO, by contrast, has evolved into a large organization with three main responsibilities:

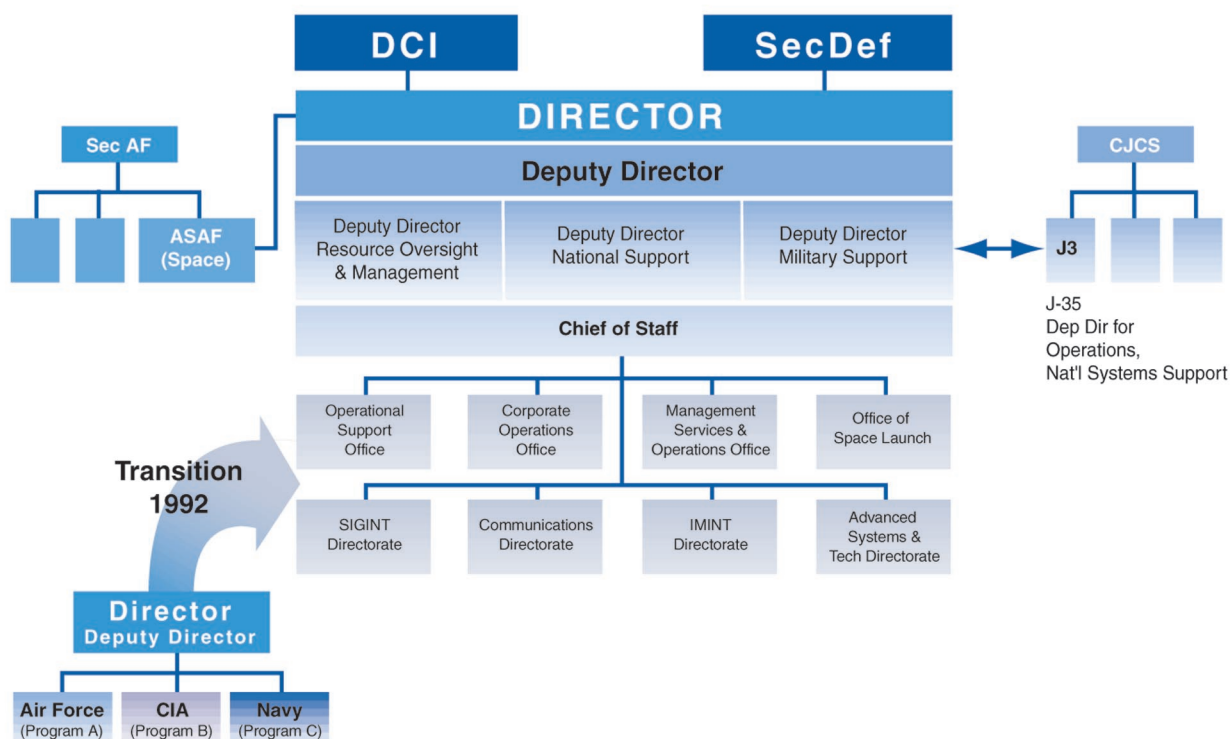
- operating the mainstay satellite reconnaissance systems that now serve a large number of tactical customers as well as strategic or “national” customers;
- acquiring new satellite collection systems that maintain continuity in the data provided to customers and include evolutionary improvements in technology; and
- conducting leading edge research and technology innovation for future satellite systems that will guarantee global information superiority and continued access to denied areas.

NRO Responsibilities



A decision was made in 1992 to consolidate the original NRO programs (Programs A, B and C) into an organization divided along functional lines, e.g., imagery intelligence (IMINT), signals intelligence (SIGINT), etc. The intent was to gain efficiencies, eliminate redundancies and develop a more centralized and more “corporate” structure for the NRO. (See graphic, “NRO Organization.”)

NRO Organization



The consolidation was followed by a period of significant upheaval at the NRO. In 1996, a controversy concerning the financial management of the organization led to the replacement of the NRO Director. The increased congressional, DoD and Intelligence Community oversight that resulted inevitably influenced the NRO's organizational practices and management structure. The end result was a larger organizational structure with additional administrative and support functions.

In response to the management challenges presented by the functional consolidation of the NRO and the financial management controversy that had led to the removal of his predecessor, then-Acting NRO Director Keith Hall established a Blue Ribbon group—known as the Jeremiah Panel after its Chairman, Admiral David Jeremiah, a former Vice Chairman of the Joint Chiefs of Staff. Its role was to review the NRO's practices and organization and make recommendations concerning how the NRO should position itself for the future.

After being confirmed by the Senate, NRO Director Hall began to implement the recommendations of the Jeremiah Panel by:

- restructuring the NRO's internal organization in an attempt to increase its responsiveness to its customers;
- establishing collaborative relationships with the NRO's mission partners—NIMA and NSA—and its customers throughout the U.S. Government;
- increasing and stabilizing the level of research and development funding and concentrating those activities in a single, more independent Advanced Systems and Technology Directorate;
- making NRO systems more tactically relevant by involving DoD in the development of requirements for the next generation NRO imagery satellite system, known as the Future Imagery Architecture;
- facilitating more effective means for processing and disseminating data derived from NRO systems;
- placing increased emphasis on information superiority; and
- changing the NRO's acquisition processes.

In addition to these reform efforts, the NRO was under congressional direction to tighten its internal budgetary controls and strengthen internal oversight mechanisms such as the Office of Inspector General. As mentioned earlier, the end result was a larger organizational structure with added administrative and support functions.

Furthermore, the NRO must now operate in the changed environment that includes many diverse customers and mission partners that have the responsibility for tasking NRO systems and exploiting and disseminating the intelligence data they produce. This significant degree of change in a relatively short period of time has put great strain on the NRO and its personnel and has presented a continuing series of challenges to senior NRO managers.

Finally, and most unfortunately, the NRO no longer commands the personal attention of the President, the Secretary of Defense, the DCI, or senior White House officials with regard to its technology and system acquisition decisions. This reduced attention from the national leadership has come at a time when the challenges to U.S. national security are as threatening and unpredictable as they have ever been. The nation's future security will require decisive leadership, clear direction and attention to detail to ensure the NRO and Intelligence Community are positioned to meet the intelligence challenges facing the United States in the 21st Century.

Changing NRO Responsibilities

Throughout its history, the NRO has met the challenge of providing innovative, space-based reconnaissance solutions to difficult intelligence problems. Since the earliest days of the Corona spy

Today's NRO must ensure the operation of its large mainstay systems, while simultaneously acquiring evolutionary upgraded systems and developing future technologies.

satellites when the NRO developed the first space-based photographic capability, the NRO has remained on the leading edge of space technology.

As explained earlier, today's NRO has three parallel responsibilities. It must ensure the operation of its large mainstay systems, while simultaneously acquiring evolutionary upgraded systems and developing future technologies. It must do all of this in a new environment that includes many more customers and mission partners.

The NRO has rendered extremely valuable non-space-related services over the years by providing terrestrial communications systems, visualization tools, imagery exploitation systems, and technical problem-solving skills to U.S. combatant commands and military departments when no other entity was willing, capable, or agile enough to do so. However, such activities have tended to divert the NRO's attention from what it is best suited to do: design, acquire and launch reconnaissance satellites that can help resolve the most difficult intelligence collection problems.

The Commission reviewed three types of proposals for altering the NRO's activities in order to focus the NRO on pursuing and applying advanced space-based or space-related technologies:

- transferring systems;
- transferring functions; and
- limiting the NRO's role in tasking, processing, exploitation, and dissemination.

Proposed Transfer of Systems. The Commission received testimony advocating the transfer of some NRO activities and operations to DoD. Such an approach was advocated in order to:

- enable the NRO to focus on developing unique space-based collection systems to solve difficult intelligence problems; and
- allow DoD to be responsible for developing and operating those space systems that are better suited to satisfying the needs of its military commanders.

Combatant Commanders and military departments now have specific validated requirements for space collection systems. Moreover, the military departments are charged by statute to “organize, train and equip” U.S. military forces and may be better positioned to accept responsibility for the space systems that are increasingly relied upon by the military and integrated into its weapons systems.

As discussed elsewhere in this Report, tensions have been heightened regarding the use of NRO systems to support both strategic and tactical customers. Transferring development or operational responsibilities for these systems to DoD would place an enormous burden on DoD to demonstrate that it could satisfy both sets of requirements.

Further, NRO satellites are substantially more complex than DoD satellites, so that the associated expertise would also have to be transferred in conjunction with any transfer of operational responsibilities. DoD’s ability to operate space systems may be more advanced now than in the past, but any such transfer would require that such activities be staffed with an adequate force of contractors and military engineering personnel sufficiently

proficient to understand the more complex NRO systems. In this regard, the Commission notes that the Air Force's Space Based Infrared System satellite program offers an opportunity for the Air Force to demonstrate the capability to acquire, operate and maintain an actively tasked collection system similar in complexity to NRO systems.

On balance, the Commission is not persuaded that such transfers are warranted at this time, and notes that the minimum criteria that should be satisfied before such transfers of responsibility could be considered include:

- demonstrated clear and discrete benefits to all military, intelligence and other customers;
- creation of additional opportunities for the NRO to focus its resources and intellectual capital on critical technology development activities; and
- guarantees that the necessary expertise is readily available within or transferred to the receiving entity to operate or develop these systems effectively in light of their unique complexities.

Proposed Transfer of Functions. Current divisions of responsibility for the production of imagery intelligence (IMINT), signals intelligence (SIGINT) and measurement and signature (MASINT) intelligence, as well as budget and mission distinctions among the NRO and its mission partners, are not as clear as they should be. To deal with these issues, it was suggested in testimony that NRO SIGINT and IMINT research and development activities, or the entirety of the NRO's SIGINT and IMINT organizations, be assigned to NSA and NIMA, respectively.

The Commission believes transfers of SIGINT and IMINT responsibilities from the NRO to NSA and NIMA could be destructive of U.S. capabilities to collect intelligence from space in

the long run. NSA and NIMA are directly responsible for providing SIGINT and IMINT to U.S. Government officials and military forces. They face voracious current and near-term demands for these products. Thus, budget and program pressures would tempt these agencies to take resources from the development of future space-based capabilities and devote them instead to current collection, analysis and production programs.

The NRO's Role in Tasking, Processing, Exploitation, and Dissemination (TPED). Serious questions have been raised by the NRO's customers and mission partners regarding the appropriate nature and scope of the NRO's role in tasking, processing, exploitation, and dissemination (TPED) functions. The TPED area is an example of the type of problems associated with NRO participation in activities that can be accommodated within the terms of the NRO's current Mission Statement because they are related to intelligence, yet are not space-related.

The NRO has often approached its mission from an "end-to-end" perspective. Not only did the NRO build satellites to collect information, it built capabilities to task the satellites, process the information they collected and disseminate it to its primary users. By taking this comprehensive approach, the NRO was able to develop advanced satellite systems and associated capabilities that better served its customers' needs.

However, the structure of the Intelligence Community has changed. New organizations exist and many intelligence functions are now shared. Tasking, processing, exploitation, and dissemination functions are dispersed throughout the Intelligence Community. Some officials are concerned the NRO is duplicating efforts in areas for which other agencies now have primary responsibility.

The National Security Agency, the National Imagery and Mapping Agency and the Central MASINT Organization bear primary responsibility for tasking NRO systems, processing the data

they collect and disseminating the information. At the same time, the NRO is responsible for ensuring its satellites operate efficiently and effectively.

In developing TPED processes in connection with its own systems, the NRO often has found innovative solutions to difficult problems in these areas. The Commission recognizes the NRO has expertise that can be applied profitably to developing future TPED processes. However, the basic role of the NRO should be to support its mission partners who have primary responsibility for the TPED mission.

To ensure the design and acquisition of future satellite collection systems fully incorporates TPED processes, the Commission believes it important that the responsibilities for TPED be carefully delineated. The Secretary of Defense and DCI should carefully review the assignment of TPED responsibilities and ensure that satellite collection capabilities do not outstrip TPED capacities and that future NRO satellite acquisitions address the responsibility and funding for end-to-end integration of TPED functions.

Recommendations

- **The Secretary of Defense and Director of Central Intelligence must direct that the NRO mission be updated and focused as a first priority on the development, acquisition and operation of highly advanced technology for space reconnaissance systems and supporting space-related intelligence activities, in accordance with current law.**
- **The Secretary of Defense and Director of Central Intelligence should determine the proper roles for the NRO, National Security Agency, National Imagery and Mapping Agency, and Central MASINT Organization in tasking, processing, exploitation, and dissemination activities.**

NRO Technological Innovation

From the NRO's inception, its core function has been the acquisition and application of new, advanced and synergistic technologies. Indeed, one key reason for creating it was in part to facilitate the process of conducting focused research and development (R&D) and the development of plans, policies, procedures, and other mechanisms to integrate “leap ahead” and “revolutionary” technologies into the space reconnaissance effort.

The key to future space-based access and to future capability in the face of actions by those who would conceal their own capability, intent and will is technology.

The NRO gained a well-deserved reputation, over time, as the preeminent research, development and acquisition (RD&A) organization in the Intelligence Community and in DoD. This reputation spread into the commercial and private RD&A and production communities, and to this day the NRO enjoys a reputation among the contractor community as the easiest and most effective element of the U.S. Government to deal with in these endeavors.

However, increasing bureaucracy and other changes in the NRO's organizational and operating structure have begun to take their toll. Some critics, commercial and governmental, who appeared before the Commission, speculated or asserted that the NRO had lost its streamlined acquisition and integration capability, and had lost its edge with regard to the development and application of new technologies.

The Commission believes that the NRO is clearly embracing its role in RD&A, in accepting new ideas, concepts and base technologies from any source, and in applying these “leap ahead” and “revolutionary” technologies to its work. The NRO has several programs for outreach to the private, individual and commercial

communities, to laboratories and to academia. However, it must then evaluate and assess the “next great idea” or the “best technology anyone ever heard of” in the harsh light of science and engineering and in the cold context of resource limitations.

It is apparent that the NRO is working on innovative and synergistic technologies. Its focus is as it should be—on technologies that will enhance, improve, or even fundamentally change the way in which the United States engages in space-based reconnaissance. In order to find and develop the required technologies, the NRO has few limits. It is true that a variety of rules and regulations have been inserted into its “streamlined” acquisition process, with good reason, to ensure that tax dollars are spent effectively and efficiently. It is still apparent, however, that the NRO can and does get things done as fast as any agency in the U.S. Government, especially with regard to the insertion of “change” technologies.

One key shortcoming in the current NRO process for “operationalizing” technology is the decision-making process following the research and development phase to acquire and apply the technology. Much of what the NRO does in operationalizing technology is now viewed by critics and supporters alike as evolutionary rather than revolutionary. This is an accurate perception. It reflects the reality of the current decision process. That process has devolved over the years from an examination of the technologies and an appraisal of their merits, to the budget process, in which technologies are evaluated largely according to resource considerations.

Not only is the budget mechanism ill-suited to be the most influential decision-making element in the review of new technologies, but the people in that process are seldom equipped to make good technology judgments. In fact, general knowledge about what the NRO does and how it does it, and for what reasons, is sadly lacking outside the NRO. Even inside the NRO, some personnel are

not fully aware of organizational goals with regard to technology applications. Decision-makers and leaders must somehow be equipped with the information and understanding they need to make good decisions.

As the nation moves into the future, the traditional strength of NRO systems to transcend geopolitical limits and to look into restricted or denied areas in any conditions will become more important than ever. Many, if not most, of our adversaries know this all too well. They have taken extraordinary steps to harden and protect their capabilities and to deny access. The key to future space-based access and to future capability in the face of actions by those who would conceal their own capability, intent and will is technology.

This simple concept is all-important. It sums up the reason for the Commission's view that technology is a vital component of ensuring U.S. preeminence in knowledge about developments worldwide. The Commission urges the NRO to ensure that we remain on or ahead of the leading edge of the technology revolution.

Recommendations

- **The President of the United States, the Secretary of Defense and the Director of Central Intelligence must pay close attention to the level of funding and support for the NRO Director's research, development and acquisition effort.**
- **The Secretary of Defense and Director of Central Intelligence should ensure common understanding of the NRO's current and future capabilities and the application of its technology to satisfy the needs of its mission partners and customers.**



PREPARING THE NRO FOR THE FUTURE

Timely, high quality space reconnaissance based on technological innovation is of crucial importance to both strategic and tactical

The NRO must constantly engage in the most advanced research, development and acquisition efforts so that it can continue to place the latest and best reconnaissance capabilities in orbit.

decision-makers. To provide this, the NRO must constantly engage in the most ad-

vanced research, development and acquisition efforts so that it can continue to place the latest and best reconnaissance capabilities in orbit. The Commission concludes that significant actions must be taken to enable it to do so, and that these actions should reflect those qualities, characteristics and attributes, as summarized below, that enabled the NRO to achieve its great past successes.

Engineering Creativity. While new NRO systems have responded to the desires of external customers, NRO engineers have also been free to pursue “the art of the possible” and to develop new technological solutions to solve intelligence problems whenever feasible. This has allowed NRO engineers to focus on improving system performance, rather than being limited by rigid, consensus-driven customer requirements. Given wider latitude, they have been more creative. Thus, the NRO is accustomed to delivering first-of-a-kind satellites.

Performance First. In making design choices for new NRO systems and upgrades, superior satellite performance has been considered more important than constraining costs. Budget

constraints have not been ignored, but sufficient funds have been made available to the NRO to pursue promising new technologies.

End-to-End Systems Approach. The NRO's distinctive approach has included end-to-end development of space reconnaissance systems. While developing a concept of operations for a future satellite system, NRO program developers considered how, by whom and under what conditions the system would be tasked. While determining how raw satellite data would be transformed into a useful product, they considered mission ground station operations. In some cases, they actually developed TPED tools and techniques to be used in conjunction with the new satellite system. Understanding the entire process permitted the development of break-through satellite systems and the capabilities required to support them.

Cradle-to-Grave Perspective. In some cases, NRO engineers have also operated the satellites they designed and built, thus developing unique and important insights into possible future capabilities. Among other things, solving on-orbit anomalies, watching and understanding the changes in intelligence targets, and incorporating new hardware and software upgrades have contributed to a thorough NRO understanding of space reconnaissance systems and the targets they must attack.

Senior Level Attention. One of the most important reasons for the NRO's success has been the partnership between the Secretary of Defense and the DCI, explained in further detail in this Report, that has permitted the creation of a single vision for space reconnaissance and allowed the NRO to operate differently than other activities in the national security community.

From its earliest days, the NRO collected information essential to strategic and tactical decision-makers. Part of the DCI's contribution to the partnership has been advocacy, on behalf of the

Intelligence Community, for crucial strategic intelligence collection that can only be conducted from space. As the President's primary intelligence advisor, the DCI requires substantial amounts of such information. At the same time, the Secretary of Defense, representing the other half of the partnership, requires NRO information to ensure global situational awareness and battlefield information dominance for his military commanders.

Special Authorities. The Secretary of Defense-DCI partnership also has provided the NRO with the authority to use extraordinary policies and procedures to advance its efforts. Among these are the NRO's exemption from normal DoD procurement policies, procedures and regulations. The NRO has also been allowed to use the DCI's special statutory procurement authorities under Title 50 of the U.S. Code. These authorities helped provide the foundation for the NRO's unique acquisition process and its exceptional relationships with contractors.

Unified Direction. The Secretary of Defense and DCI agreed to establish a single NRO Director with a single vision based upon a single space reconnaissance budget. Internal disagreements involving competing demands for constrained NRO resources are settled by one Director within one organization, based upon an

Need for Secrecy



"The necessity of procuring good intelligence is apparent...All that remains for me to add is, that you keep the whole matter as secret as possible. For upon Secrecy, Success depends...and for want of it, they are generally defeated"

General George Washington
letter to Colonel Elias Dayton
July 26, 1777

understanding that space reconnaissance is essential for the success of DoD and the Intelligence Community.

Special Security Protections.

Until 1992, the NRO was surrounded by a wall

of secrecy. This environment kept foreign intelligence services from gaining a comprehensive understanding of U.S. space reconnaissance capabilities. The absence of information on NRO spacecraft attributes, sensors and its approach to the development of new technology hampered those who intended to use cover and denial and deception techniques to counter U.S. space reconnaissance. As a result, knowledge of the NRO was limited.

Experienced Program Managers. NRO program managers have been experienced military and CIA acquisition officers. Many have spent almost their entire careers within the NRO working in many different capacities. Because they were highly qualified acquisition professionals and understood NRO activities so well, they required little supervision and were empowered to make decisions not normally made at their level in other parts of the U.S. Government. They could reallocate funds to meet unforeseen circumstances and could take advantage of opportunities to adopt new technologies. With clear guidance from senior Government officials and sufficient resources, they were able to make decisions in technically risky programs and produce very successful, advanced space reconnaissance systems.

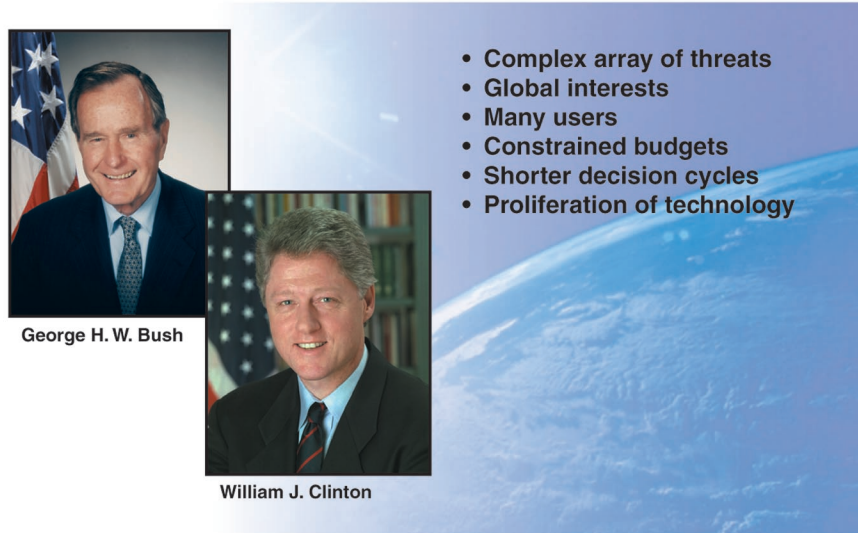
The Impact of Change. The current environment within which the NRO must operate has had an unfortunate effect on these characteristics, which have been so important for the NRO's past successes. For example, the integration of NRO information into many day-to-day decision-making processes has made many national security professionals very familiar with NRO programs. Many have come to expect the NRO to adapt to standard procedures in order to accommodate the needs of a wide array of customers.

The NRO now must respond to rigid requirements for new reconnaissance systems, based on extensive negotiations among a wide variety of strategic and tactical customers. Because

resources are constrained across the Intelligence Community, cost constraints have become an increasingly important element in decisions on new NRO programs.

A New Operating Environment For The NRO

(1990-21st Century)



There have been other important changes. The Secretary of Defense-DCI partnership is being managed to a large extent by subordinates or staffs. The NRO is now a publicly acknowledged organization. Some of its latest space reconnaissance initi-

atives are well-publicized and NRO systems are analyzed and discussed on the Internet.

Thus, the NRO is operating under very different conditions from those under which it achieved its greatest successes. Nonetheless, new, extremely difficult intelligence problems will continue to arise that will require frequent, assured, global access to denied areas. This is the NRO's unique contribution to intelligence and should be the driving force behind its efforts.

The Office Of Space Reconnaissance

Because of the NRO's changed circumstances, the Commission concludes that the NRO Director must free his most advanced research, development and acquisition efforts from processes that inhibit his ability to place the latest and best reconnaissance capabilities on orbit quickly. The Commission

believes the best way to do this is to create a new office that builds on the sources of the NRO's past successes and reflects the characteristics of its successful programs. It suggests the new office be called the Office of Space Reconnaissance (OSR).

The first and foremost premise in establishing this Office must be that it responds only to requirements from the President, Secretary of Defense and DCI through an Executive Committee (EX-COM) and to congressional oversight. By implication, the Office's budget would be relatively small and it would focus only on the most significant problems confronting the three principal decision-makers and that require space-based reconnaissance solutions. Because these officials would give the new Office their personal attention, they would exempt the Office from normal DoD acquisition regulations and allow it to use, when appropriate, the DCI's special authorities under 50 U.S.C. 403j. Further, their personal involvement and support would give important impetus to the Office's programs as they wind their way through the complicated budget and oversight process.

Second, the Office would focus narrowly on high technology solutions to the most difficult intelligence problems based on the requirement to gain frequent, assured, global access to denied areas. This could produce space collection systems at least two generations ahead of the rest of the world. The President, Secretary of Defense and DCI would personally identify the problems and approve the new Office's proposed solutions.

The third premise for the new Office is that it should be under the control and direction of the NRO Director. A single overall vision for space reconnaissance must be retained, and that vision is best vested in the NRO Director.

Fourth, the Office must be staffed by both military and CIA personnel. They bring the separate perspectives of strategic and tactical customers to the program level of decision-making. The

Commission anticipates they would be senior grade officers with broad backgrounds in space reconnaissance and with extensive experience in program management and acquisition. Their experience and background should be sufficient to give their supervisors and those with oversight responsibilities, including the Congress, confidence in the Office's program management. As a result, Office managers would have the power to make risky technical decisions that are often needed.

Fifth, the Office would approach space reconnaissance programs from end-to-end and cradle-to-grave perspectives. Its solutions would be comprehensive, beginning with effective and efficient tasking of a space reconnaissance system and ending with at least a plan for the dissemination of its products.

Sixth, the Office would operate from facilities separate from other space reconnaissance activities, and it would be covered by a new security compartment. The purpose would be to establish effective secrecy to shield the technologies and collection techniques under development. Accordingly, the Office would have a greater likelihood of defeating adversary attempts to employ cover and denial and deception techniques.

The Office also would have a separate budget element included in the National Foreign Intelligence Program. The Commission envisions that funds for the new budget of the Office of Space Reconnaissance would come initially from the National Reconnaissance Program. The Commission has taken this approach so as to avoid simply recommending that more funds be committed to space reconnaissance. It believes the creation of the new Office will focus senior level attention on high-end space reconnaissance solutions to the most difficult intelligence problems. Further, the Commission believes that, by having the new Office create and defend its own budget, its advanced research, development and acquisition programs would succeed or fail based on their own merits.

The Office of Space Reconnaissance would be separate from the NRO in many aspects. It would have a separate budget, separate facilities, a separate security com-

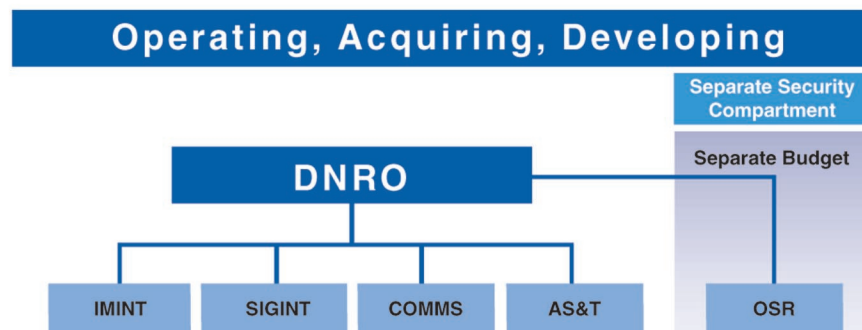
partment, and separate program managers. However, the NRO Director's (DNRO) relevant corporate structure should be sufficient to support its activities.

The Commission believes a new Office operating under the specific guidance of the President, Secretary of Defense and DCI would be better postured to place the most advanced reconnaissance capabilities into space than would the current NRO operating mechanisms. Those who oversee and supervise space reconnaissance activities, including those in Congress, should have greater confidence in the importance of programs personally supported by the President, Secretary of Defense and DCI.

Additionally, a smaller budget supporting fewer programs should enable supervisors and those with oversight responsibilities to have a more thorough understanding of each program and the significance of the technology involved. This in turn should give them greater assurance that technical decisions made at the program level are correct and further reduce tendencies to hold back technology development solely for cost reasons.

Finally, the Office's new security compartment would permit access only to those with oversight responsibilities who have an absolute need-to-know. A proper balance must be struck, however, in which secrecy is sufficient to frustrate adversaries using cover

NRO / OSR Organizational Relationships



and denial and deception techniques, while at the same time care is given to protect only essential information.

The Commission emphasizes that creation of the Office of Space Reconnaissance does not diminish the fundamental importance of the NRO and its mission. As noted throughout this Report, the Commission finds the NRO is responding appropriately

to the changed circumstances confronting it. The Commission believes the NRO must continue along the path it is following in order to serve a broad strategic and tactical customer base.

The NRO must continue to evaluate and put into

place leading edge technologies to improve space reconnaissance and to meet the needs of its broad customer base. It also must develop and operate space reconnaissance systems to overcome the intelligence problems confronting this same customer base. It must acquire and operate high-technology spacecraft on behalf of the Secretary of Defense and DCI to gain frequent, assured access to denied areas on a global basis.

Recommendation

- **The Secretary of Defense and the Director of Central Intelligence should establish a new Office of Space Reconnaissance under the direction of the Director of the NRO. The Office should have special acquisition**



authorities, be staffed by experienced military and CIA personnel, have a budget separate from other agencies and activities within the National Foreign Intelligence Program, be protected by a special security compartment, and operate under the personal direction of the President, Secretary of Defense and Director of Central Intelligence.

The Secretary of Defense-Director of Central Intelligence Relationship

The Commission has emphasized the need for the Secretary of Defense and DCI to be fully aware of, and engaged in, NRO program decisions. In that light, the Commission has reviewed the Secretary of Defense and DCI responsibilities regarding the NRO.

The NRO Director is the head of an agency of DoD that is also a major component of the Intelligence Community. In addition,

The tri-cornered arrangement among the Secretary of Defense, DCI and NRO Director has at times provided great strength to the NRO because it has allowed the NRO Director to draw on the resources and benefit from the advocacy of the two major forces in the Intelligence Community and DoD.

he serves as the Assistant Secretary of the Air Force for Space. Under four agreements dating back to the 1960s, the Director of the NRO is responsible for reporting to both the Secretary of Defense and the DCI. According to the NRO's General Counsel, all four agreements are considered by the NRO to be still in effect, although more recent statutory and Executive Order provisions have added significant structure to the relationship. (See box on facing page, "Summary of Secretary of Defense—DCI Agreements Pertaining to the NRO." Also, a more detailed explanation of the agreements and the historical development of the Secretary of Defense-DCI relationship regarding the NRO is included in Appendix D.)

Summary of Secretary of Defense—DCI Agreements Pertaining to the NRO

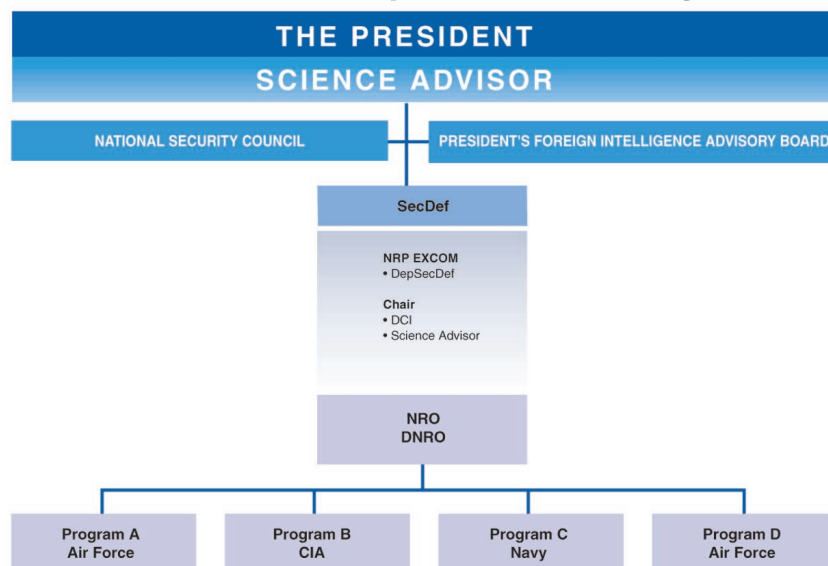
The first agreement (1961) created the NRO to manage a DoD National Reconnaissance Program (NRP) that included all overt and covert satellite and over-flight reconnaissance projects. The NRO was to function under the joint direction of the Under Secretary of the Air Force and the CIA's Deputy Director for Plans. Major NRP program elements and operations were to be subject to regular review by a National Security Council group.

A second agreement (1962) provided that the NRO Director would be designated by both the DCI and Secretary of Defense and be responsible directly to them for management of the NRP. DoD and CIA personnel were to be assigned to the NRO and DoD and CIA were to provide funds for the NRO projects for which they were responsible.

In 1963, a third agreement superseded the prior version and identified the Secretary of Defense as the Executive Agent for the NRP and the NRO as a separate operating agency within DoD. The NRO Director was now to be appointed by the Secretary, with the concurrence of the DCI. A Deputy NRO Director was to be appointed by the DCI, with the concurrence of the Secretary. NRO budget requests were to be presented by the NRO Director to the Secretary and DCI, the Bureau of the Budget and congressional committees. The NRO Director was to report directly to the Secretary of Defense, while keeping the DCI currently informed.

The last agreement (1965) made clear the Secretary of Defense had "ultimate responsibility" for the NRO and eliminated the requirement for DCI concurrence in the selection of the NRO Director. The DCI retained authority for appointing the Deputy NRO Director, but with the concurrence of the Secretary. This agreement also provided that the Sec-

Streamlined NRO Acquisition Authority 1965-1972



retary was the final decision-maker for the NRP budget and all NRP issues. It created an NRP Executive Committee (EXCOM)—consisting of the Deputy Secretary of Defense, DCI and the Assistant to the President for Science and Technology—to “guide and participate” in NRP budget and operational decisions, but the Secretary of Defense was responsible for deciding any EXCOM disagreements.

The tri-cornered arrangement among the Secretary of Defense, DCI and NRO Director has at times provided great strength to the NRO because it has allowed the NRO Director to draw on the resources and benefit from the advo-

cacy of the two major forces in the Intelligence Community and DoD. To some degree, however, the uncertain situation in which the NRO finds itself today—requirements rising, budgets level or falling, and customers and mission partners demanding greater roles in the NRO's decision-making process—can be traced to the ambiguity and recent inadequacy of the Secretary of Defense-DCI relationship as a means of resolving disputes relating to the NRO.

The Commission believes history has shown it is possible for the NRO Director to be responsive to both the Secretary of Defense and DCI and that the dual reporting arrangement is valuable for the NRO Director and should be continued. In previous years, for example, the Secretary of Defense and DCI held weekly meetings that allowed intelligence-related issues to be raised and resolved quickly without having to percolate through the many layers of bureaucracy that have come to separate the two officials from the NRO Director. (See graphic, "Management Structure for the Intelligence Community.") However, the Commission recognizes the relationship is not self-executing and that its success requires the active participation of both parties.

A Unique Partnership Evolves

1961 NRO Co-Directors

- **February 1958**
 - President assigns CIA lead of CORONA with CIA-USAF program office patterned after the U2 model
- **August 1960**
 - DoD office formed to manage USAF reconnaissance satellite programs
- **September 1961**
 - DoD-CIA sign first National Reconnaissance Program charter
- **1962**
 - Navy program incorporated into NRP
- **1965**
 - DNRO charter signed
 - DNRO is DoD civilian. DD/NRO is CIA officer

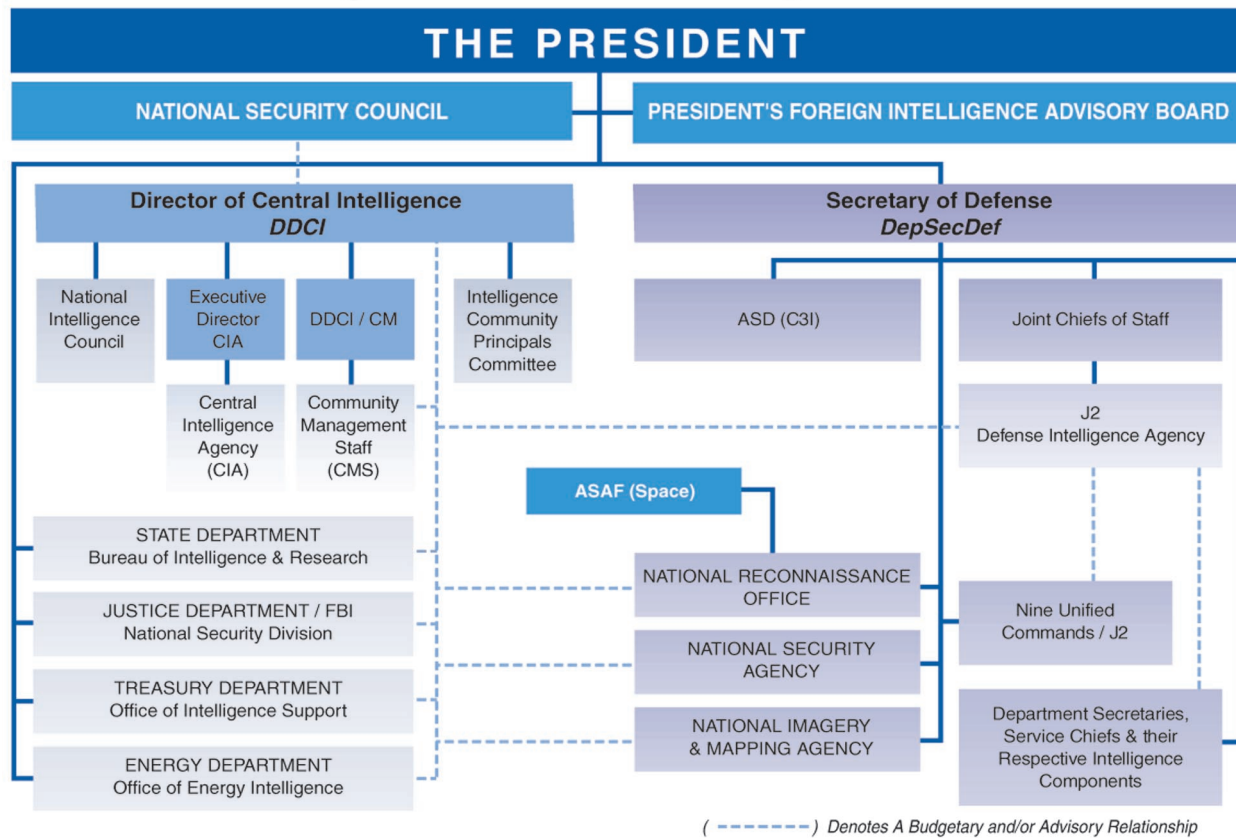


Richard Bissell



Joseph Charyk

Management Structure for the Intelligence Community



The Secretary or the DCI may choose not to pursue this relationship. Successively lower levels of officials may then be left to “manage” the NRO on behalf of the two principals. Friction among the NRO, the Intelligence Community and DoD has developed in such periods. The Commission believes that the Secretary of Defense and DCI must be involved in managing the NRO and that a close working relationship must be established between them for this purpose.

The Secretary of Defense-DCI relationship with regard to the NRO could be embodied in a comprehensive statute, as there is for NIMA, or it could be established by statute mandating its

completion by a date certain. Alternatively, relatively minor amendments could be made to the existing statutory scheme that would have significant impact on the relationship. The relationship also could be established by Executive Order or some other form of Presidential Directive, a combination of statutory and Executive Branch provisions, or a new agreement between the Secretary of Defense and the DCI that would take account of the many changes in the relationship that have occurred since 1965, the date of the last of the previous agreements.

The Commission evaluated the desirability of recommending the creation of an “NRO statute.” Such a law could firmly secure the NRO’s position in the national security community. After debate, the Commission concluded that congressional action in this regard could make the situation worse, rather than better. It believes senior level Executive Branch attention should be sufficient at this time.

Recommendations

- **The President must take direct responsibility to ensure that the Secretary of Defense and Director of Central Intelligence relationship regarding the management of the NRO is functioning effectively.**
- **The President should direct the development of a contemporary statement defining the relationship between the Secretary of Defense and Director of Central Intelligence with regard to their management of the NRO.**

Balanced Response to Customer Demands

Strategic and tactical intelligence requirements determine the targets against which current NRO systems collect every day.

Ensuring a proper balance between strategic and tactical requirements—in terms both of the use of current NRO systems and in the design of future NRO systems—is a matter of utmost national security importance.

They also have a direct and substantial impact on the design parameters of future NRO systems.

Tactical requirements include those generated by the Defense Intelligence Agency, the military departments of DoD and the commanders of the various U.S. military commands. They are generated in furtherance of the U.S. military's responsibility to cope with contingencies in any area of the world, to support the worldwide deployment of U.S. armed forces and to organize, train and equip forces for future military operations.

Strategic requirements, on the other hand, include those gener-

ated by the National Security Council, CIA, DoD, State Department, and other civilian departments and agencies. These requirements support U.S. Government policy officials, including those in the White House and

Notional Requirements Timelines



throughout the various departments and agencies of the U.S. Government who participate in the development of U.S. foreign, defense, military, economic, and technology policies.

An extensive debate has been underway for some time over whether NRO collection resources are being properly allocated between strategic and tactical intelligence requirements. The Jeremiah Panel, referred to earlier, reviewed the state of the NRO and reported in 1996 that both strategic and tactical customers of the NRO were frustrated with the requirements processes for both future systems and daily operations. According to the Panel report, tactical customers believed there was an insufficient NRO commitment to satisfying their needs, while strategic customers believed that overhead systems were being used, and future systems designed, primarily for tactical customers and to the detriment of strategic customers.

The NRO Director identified this tension between the NRO's strategic and tactical customers as the first issue the Commission should address because there is a belief that the NRO is responsible when requirements are not satisfied. Substantial as the NRO's present collection resources are, they cannot satisfy all requirements all the time. Nor will future NRO systems, including the Future Imagery Architecture, be able to satisfy all the needs of both strategic and tactical customers. The NRO is thus caught in the middle of the debate over the respective extents to which strategic and tactical requirements should be satisfied by its current systems and over the influence of those requirements on the design of its future systems.

The classification level of much of the data produced by NRO systems was lowered during and after the Gulf War in response to congressional and military pressure to make it more readily available to military commanders in the field. As explained earlier, this action removed the veil of compartmented secrecy from the NRO.

NRO Support to Military Operations

"One thing that made it [the Desert Storm ground attack] a great success—we knew where the enemy was. We had imagery before leaving Germany...knew all the battle positions...first 48 hours was exactly how we rehearsed."

Major General Ronald H. Griffith, USA
Commander First Armored Division

In addition, following the Gulf War, Congress emphasized the need to expand the use of NRO systems to support military operations.

These developments have brought a substantial increase in NRO collection requirements. But there has been no corresponding increase in NRO funding. As has been explained elsewhere in this Report, the program for providing additional funds to the NRO from the DoD budget through the Defense Space Reconnaissance Program for activities related to military-unique requirements was eliminated in 1994. Without such compensating resources, the shift toward expanded support for military operations has stressed the capacities of NRO systems to satisfy strategic, longer-term intelligence needs.

The Commission believes that ensuring a proper balance between strategic and tactical requirements—in terms both of the use of current NRO systems and of the design of future NRO systems—is a matter of utmost national security importance. Factors that have made this an issue include the growing expectations of the NRO's expanding customer base and the lack of an effective policy structure to clarify the NRO's mission and the allocation of its resources in the face of these competing demands.

There also appears to be no effective mechanism to alert policy-makers to the negative impact on strategic requirements that may result from strict adherence to the current Presidential Decision Directive (PDD-35) assigning top priority to military force protection. That Directive has not been reviewed recently to determine whether it has been properly applied and should remain in effect.

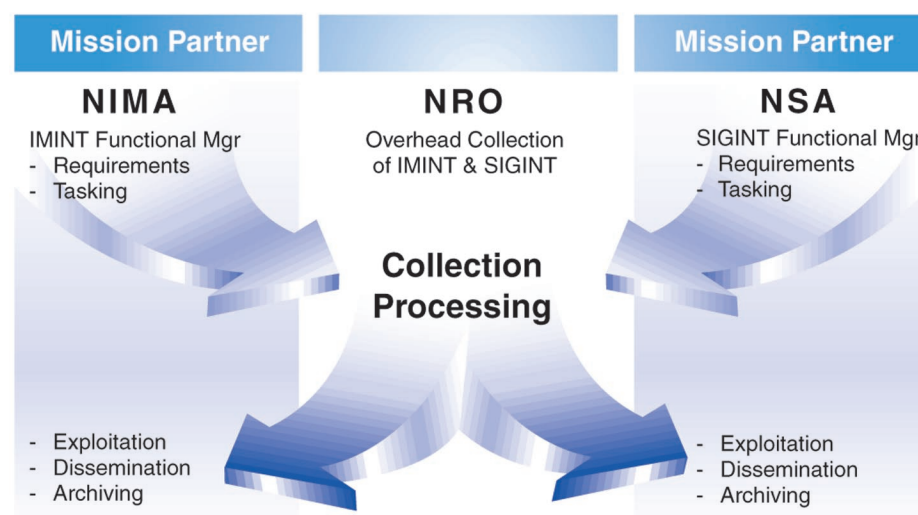
It also is significant that the interagency committees and components that consider requirements for NRO systems were moved out of the DCI's Intelligence Community management structure in the early 1990s. These are now managed by the agencies with functional responsibilities for the management of signals intelligence (SIGINT) and imagery intelligence (IMINT), NSA and NIMA, rather than being directed by officials with a broader view of the needs of the Intelligence Community.

Day-to-day collection requirements for current NRO IMINT systems are managed by NIMA through an inter-

agency process that includes representatives of both the national and military customers. This process allocates tasking of NRO imagery systems according to standing requirements based on pre-determined intelligence priorities. It allocates daily tasking of these NRO systems in response to ad hoc requirements, driven by current events, that may warrant a higher collection priority. A similar, but somewhat more complicated, process regarding collection requirements for NRO SIGINT systems is managed by NSA.

Requirements that will affect the design of future NRO IMINT and SIGINT systems must be developed, presented and justified prior to the design of those systems. This is a more technical and detailed process than that for current requirements, and it may

NRO - NSA - NIMA Relationships



In the FIA requirements process, the DoD customers benefited from a well-established and systematic DoD requirements review process. To aid non-DoD customers in developing and justifying

Future Imagery Architecture



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It is clear to the Commission that, in this area as well, it is up to the President, Secretary of Defense and DCI to ensure that the priority needs of both the strategic and tactical customers of intelligence from NRO systems are satisfied now and in the future. The Commission believes that direct and sustained attention by the Secretary of Defense and the DCI is needed to resolve the current debate in a way that ensures sufficient and proper coverage of both strategic and tactical intelligence requirements by current and future NRO reconnaissance systems.

In any event, the President has assigned the highest current priority to collection of intelligence in support of deployed U.S. military forces. So long as this is the case, the needs of the strategic customers will continue to be given secondary priority whenever the two types of requirements conflict and the NRO systems cannot accommodate both.

Recommendations

- **The Secretary of Defense and the Director of Central Intelligence must work closely together to ensure that proper attention is focused on achieving the appropriate balance between strategic and tactical requirements for NRO systems, present and future.**
- **The Presidential Decision Directive (PDD-35) that establishes priorities for intelligence collection should be reviewed to determine whether it has been properly applied and should remain in effect or be revised.**
- **The imagery intelligence and signals intelligence requirements committees should be returned to the Director of Central Intelligence in order to ensure that the appropriate balance and priority of requirements is achieved each day.**

- The Secretary of Defense and Director of Central Intelligence should undertake an educational effort to ensure that Intelligence Community members and customers are properly trained in the requirements process, the cost of NRO support, and in their responsibilities in requesting NRO support.

Defense Space Reconnaissance Program (DSRP)

In the 1970s, the NRO's satellite collection capabilities and products began to be made more broadly available to the military. The expanded use of this data spawned the creation in 1981 of the Defense Support Project Office (DSPO) within the NRO. DoD

Pressures on the National Foreign Intelligence Program to address requirements that are uniquely military in nature are increasing and there is no longer a DoD budget program element to offset the rising cost to the NRO of meeting those requirements.

established the Defense Reconnaissance Support Program (DRSP), under the management of the DSPO, and

used it as a mechanism to provide additional funds from DoD to the NRO for systems development and operations that directly contributed to the support of tactical military users. Congress later authorized and appropriated specific funding to the DSPO within the DRSP budget to ensure that military warfighting requirements were addressed in the design and operation of NRO satellites.

The DRSP funds were generally used to meet unique military requirements for NRO satellite reconnaissance systems. These funds, on the order of several hundreds of millions of dollars, paid for additional satellites or military-specific systems. The DRSP budget was managed by the DSPO. The NRO Director also

served as the Director of the DSPO, thus ensuring that NRO program offices were responsive to the needs and requirements of both the Intelligence Community and the military departments.

Between 1981 and 1994, the NRO was authorized and appropriated annual

funds from both the National Reconnaissance Program (NRP) element of the National Foreign Intelligence Program budget (NFIP) and the DRSP element of the Tactical Intelligence and Related Activities (TIARA) program budget. The NRP was used to pay for Intelligence Com-

munity requirements for development, operation and maintenance of NRO satellite reconnaissance systems, as well as NRO innovative technology activities. Supplemental funding for NRO efforts to satisfy military requirements was provided from DoD's DRSP budget.

A 1994 agreement between the Deputy Secretary of Defense and the DCI transferred all of the satellite acquisition and infrastructure funding into the NRP. As a result, DRSP funding was reduced to tens of millions of dollars per year to be spent on helping military customers learn how to use collection and processing

NRO Satellite Funding: 1981-94



systems effectively. The DRSP was renamed the Defense Space Reconnaissance Program (DSRP).

The effect of this 1994 agreement is that NRO efforts to support both Intelligence Community and military requirements are now paid for out of the NRP budget. In 1999, Congress directed the abolition of the DSPO and its functions were transferred to the NRO Deputy Director for Military Support.

As explained earlier, military requirements have continued to grow and contention for NRO satellite resources has increased. The number of extended U.S. military commitments and other U.S. interests around the globe that require continuing support is also stressing the capacity of NRO reconnaissance systems to detect critical indications and warnings of potentially threatening events.

Pressures are increasing, as a result, on the NRP and NFIP to address these requirements—even those uniquely military in nature. Yet there is no longer a DoD budget program element to offset the rising cost of meeting those requirements as there was when the DRSP competed against other DoD budget requirements to provide the needed funds.

Experience since 1994 suggests that adaptations of NRO systems for tactical purposes have met with increasing difficulty competing within the NFIP budget and that NRP spending on tactical needs is seen as a drain on the Intelligence Community and the NFIP. Military influence toward improving the tactical support capabilities of future satellite systems is limited because the Intelligence Community believes that many of the proposed improvements are DoD-unique and should not be paid for by the NFIP.

The Commission believes it is time to reinstitute DSRP funding for NRO programs. Besides easing the budget pressures, this would help sensitize military users to the costs associated with

added requirements and reduce the current tendency to view NRO products as a “free” commodity with no value attached and no cost-benefit measurement against competing demands.

The Commission supports the language in the report accompanying the Fiscal Year 2001 DoD Authorization Act that parallels the findings of the Commission. That report states that the DSRP has served an important role in providing direct interactions among the NRO and operational military commanders and other elements of DoD. It also states that the Secretary of Defense needs to evaluate the overall role of the NRO in supporting tactical military forces.

This evaluation is to include a review of, among other things, whether a revitalized DSRP would be the best mechanism for giving the Unified Commands a role in determining future space intelligence and reconnaissance capability requirements and raising the visibility of space reconnaissance matters within the DoD program planning and resource allocation process. The evaluation also is to include the role of a revitalized DSRP in funding NRO system developments to satisfy unique military requirements. The Authorization Report directs the Secretary of Defense to provide the congressional defense and intelligence committees a report by May 1, 2001 on his assessment and recommendations in these regards.

Recommendation

- **The Secretary of Defense, in consultation with the Director of Central Intelligence, should re-establish the Defense Space Reconnaissance Program as a means of funding tactical military requirements for NRO systems and architectures.**

Increased Resource and Budgetary Flexibility

The provisions of the 1997 Intelligence Authorization Act were intended, among other things, to enhance the authority of the DCI in regard to the annual NFIP budget. Thus, the DCI is required to

The DCI should have greater latitude to redirect funds among intelligence collection areas and agencies in order to respond most effectively to the specific types of program issues that arise at the NRO.

approve any reprogramming of NFIP funds by any Intelligence Community element.

The DCI was also given authority to transfer funds or personnel within the NFIP budget to meet unforeseen and higher priority intelligence requirements. However, that authority is conditional on the agreement of the “Secretary or head of the department which contains the affected element or elements...” This requirement for agreement could negate the DCI’s ability to move personnel and financial resources around the Intelligence Community, including to or from the NRO, to deal with unexpected contingencies and technological or other developments.

In this respect, the Commission notes that Section 105 of the FY 2001 Intelligence Authorization Act has ameliorated this situation somewhat in favor of the DCI. That section provides that only the Secretary or head of an agency has the authority to object to a transfer of funds within the NFIP and that such objections must be in writing. The Act further provides that, within the Department of Defense only, the Deputy Secretary of Defense may be delegated the authority to object for the Secretary and that the Deputy Director of Central Intelligence for Community Management may be delegated the DCI’s authority to transfer funds.

Recommendations

- The Director of Central Intelligence should be granted greater latitude to redirect funds among intelligence collection activities and agencies in order to respond most effectively to the specific types of issues that arise in NRO programs.
- Transfers greater than \$10 million would continue to require the concurrence of the affected Secretary or agency head. This could be coupled with a provision to allow a Secretary or agency head who has objections to such transfers the opportunity to appeal the Director of Central Intelligence's decision to the President.
- The requirement that such transfers be made known to the appropriate congressional committees should not be altered.

NRO Technical Expertise

The NRO's success is directly attributable to the high quality and creativity of the DoD, CIA and contractor workforce that has been dedicated to supporting the NRO. The overwhelming majority of the U.S. Government personnel

The Commission believes there is a compelling need for an NRO career path and assignment policy that provides the opportunity for highly trained engineers and acquisition and operations specialists to be assigned to and progress through a broad range of NRO positions.

who work at the NRO are employees of the CIA or DoD who have been assigned to the NRO for some portion of their careers and who have the technical expertise needed for complex NRO programs. A substantial number of these are active duty military personnel.

Until recently, many of these personnel served the majority of their careers with the NRO, transferring among its acquisition, development, launch, and operating elements. Some never returned to their parent organization for any appreciable length of time. This allowed a highly skilled cadre of personnel to advance within the management structure of the NRO, gaining experience at various levels of its technical, financial and acquisition programs along the way. Promising young military and CIA officers were groomed to become the NRO program managers of the future. Long tenure and accomplishment at the NRO were valued by their parent organizations and these personnel were promoted along with, and sometimes ahead of, their peers who followed more traditional career paths within their agency or military service.

With the transition from separate programs to a functionally-based organization, there is no longer a unique career path for many of the personnel assigned to the NRO. For example, in the past when there were independent Air Force, CIA and Navy elements called Programs A, B, C, and D, Air Force personnel in Program A were assigned to the Secretary of the Air Force Office of Special Programs (SAFSP). They were hand-selected for assignment to the NRO and their careers were managed by SAFSP. This Air Force element was directly tied to the strategic mission of the Air Force to monitor the Soviet Union's nuclear forces. As a result, there were clear incentives for the Air Force to contribute to the NRO mission, promote Air Force identity and mentor and care for its people efficiently.

Likewise, Program B, which was staffed by personnel from the CIA's Directorate of Science and Technology (DS&T), had its own unique identity and career path within the DS&T Office of Development & Engineering. Those personnel also were hand-selected for a career within the NRO. They were tied directly to the CIA's strategic intelligence mission and the requirements generated by

the DS&T and had very clear objectives and career paths to become managers of the NRO's Program B systems.

New personnel assignment practices adopted by the parent organizations have had the effect of limiting the tenure of personnel assignments to the NRO. Because rotational assignments back to these organizations appear to be a requirement for career advancement beyond a certain grade, there is a resulting concern that the NRO could lose its ability to sustain the cadre of highly-skilled and experienced personnel it needs to guarantee mission success. In some cases, this cadre is prevented from gaining equivalent broad space-related experience during the rotational assignments. While it is understandable that a parent organization may want to exploit the special skills their personnel develop in the NRO, the cost to NRO space reconnaissance programs is likely to be greater than the value of broader experience to these other organizations.

In fact, serving too much time supporting the development and acquisition of our nation's most sensitive and unique space reconnaissance systems is often seen as detrimental to one's career. Also, there are no longer any separate military service elements (Air Force, Navy, and Army) within the NRO to monitor personnel assignments or career progression.

The Commission believes there is a compelling need for an NRO career path and assignment policy that allows highly trained engineers and acquisition and operations specialists to be assigned to and progress through a broad range of NRO positions. In this respect, the Commission notes that Section 404 of the FY 2001 Intelligence Authorization Act enables the DCI to detail CIA personnel to the NRO indefinitely on a reimbursable basis and to hire personnel for purposes of detailing them to the NRO.

The Commission recognizes that there may be assignment possibilities within other U.S. Government space or technical programs that could contribute to the professional development of these personnel. However, the technical complexity of NRO systems is unique, and mission success requires the continuity of a dedicated cadre of personnel skilled in the development, acquisition and operation of those systems.

Recommendation

- **The Secretary of Defense and the Director of Central Intelligence should jointly establish NRO career paths to ensure that a highly skilled and experienced NRO workforce is continued and sustained.**

Increased Launch Program Risks

The Commission believes the current status of the NRO satellite and launch program dramatically highlights the need for active participation and leadership by the Secretary of Defense and DCI

There appears to be no national strategy or effective and engaged National Security Council-level mechanism to provide the guidance and oversight needed to ensure a robust national space reconnaissance architecture. This has led to a situation in which failures in existing or new spacecraft and launch vehicles could result in significant gaps in the intelligence coverage that is available from NRO systems.

in managing the nation's space reconnaissance program. Because the NRO is managed jointly by the Secretary of Defense and DCI, it is es-

sential that its operating responsibilities be clear and allow for sufficient review of program decisions by other affected agencies. Such reviews are consistent with the responsibilities of the Secretary of Defense and DCI to assure global access through space reconnaissance. Without such senior involvement, there is a real

risk that NRO program decisions will be made without a full appreciation of their consequences for overall national security.

The Commission is alarmed that one particular potential vulnerability in the NRO's programs has arisen that might have been avoided with proper foresight, leadership and review at the national decision-making level. The NRO is now on a path that leads toward a future period of unprecedented risks inherent in concurrent satellite and launch vehicle development and transition. It is developing *new* spacecraft that will be launched by *new* launch vehicles. Today, the fragility of the satellite and launch architectures offers no margins for error.

Historically, spacecraft and launch vehicle development programs have failed to meet their original estimated delivery dates. In addition, the initial spacecraft and launch vehicles that emerge from

new development programs have often experienced failures because of design flaws that were not discovered prior to their first flights. In the past, such delays and failures could usually be mitigated because the NRO either had robust satellite capabilities in



The explosion of a Titan IVA in August 1999 was caused by wiring defects. Titan IV quality problems were linked to the overemphasis on cost-cutting and the loss of experienced personnel.

orbit, or had satellites or launch vehicles in production that could be accelerated to fill any gaps.

Today, however, sufficient NRO contingency capability does not exist and has not been budgeted. The number of current launch vehicles that remain available to the NRO until the U.S. Government-sponsored Evolved Expendable Launch Vehicle (EELV) program is completed is strictly limited to those necessary for planned NRO launches. In addition, the NRO has adopted more optimistic assumptions for the operational lifetimes for its current satellite systems than it has in the past.

The NRO believed that a significant number of commercial and other U.S. Government launches would demonstrate the reliability of EELV launch vehicles long before the NRO would be required to launch its newly developed satellites on them. This has not happened and current launch projections indicate NRO satellites are scheduled to fly on very early EELV launch vehicles.

In addition, the EELV and some NRO satellites under development are now using an acquisition reform management approach that may cut costs, but has proven to be controversial since it involves less participation by skilled U.S. Government and contract personnel in overseeing the work of satellite and launch vehicle manufacturers. NASA has acknowledged that some of its recent satellite problems directly correlate with programs involving less Government participation and use of acquisition reform techniques. The application of these new acquisition reform techniques and commercial practices to the EELV, and to some NRO programs, may add additional risks and uncertainty relative to technical, schedule and cost success.

The Commission is vitally concerned about the implications of this unprecedented period of concurrent satellite and launch vehicle development and transition that could have major impacts on

the U.S. space reconnaissance program. The decisions that have brought about this situation have been based upon resource constraints and NRO assessments. The decisions have not been adequately reviewed at the highest levels of the U.S. Government to assess their overall implication for the national security posture.

The Commission notes the painful lesson of the 1980s that grew out of the decision to launch all NRO satellites from the Space Shuttle. Following the *Challenger* disaster and the suspension of Space Shuttle flights, the NRO was forced to reconfigure its satellites for other launch vehicles. This cost billions of dollars and placed U.S. national security at risk during the period when replacement satellites could not have been launched if circumstances had so required.

There appears to be no national strategy or effective and engaged National Security Council-level mechanism to provide the guidance and oversight needed to ensure a robust national space reconnaissance architecture. This has led to a situation in which failures in existing or new spacecraft and launch vehicles could result in significant gaps in the intelligence coverage that is available from NRO systems.

Recommendations

- **The NRO Director, with the support of the Air Force Materiel Command and Space and Missile Systems Center, should develop a contingency plan for each NRO program or set of programs. These plans should describe risks, contingency options and failure mitigation plans to minimize satellite system problems that might result from satellite or launch vehicle failures.**
- **The Secretary of Defense and Director of Central Intelligence should establish independent teams to conduct**

pre-launch assessments of non-traditional areas of risk. These teams should be made up of recognized space launch experts and be granted whatever special authorities and accesses are required to perform their duties.

- The Commission to Assess United States National Security Space Management and Organization should evaluate the need for an improved organization structure to provide launch capability and operations for the deployment and replenishment of NRO and DoD satellites.

Commercial Satellite Imagery

Background. The NRO's future could be affected significantly by the degree to which it is able to exploit the ongoing development of a competitive commercial space imagery industry. That

The U.S. Government could satisfy a substantial portion of its national security-related imagery requirements by purchasing services from the U.S. commercial imagery industry.

industry is in an embryonic stage in the United States and abroad, but the technology available to it is already mature. According to a recent classified U.S. Government study, the U.S. Government could satisfy a substantial portion of its national security-related imagery requirements by purchasing services from the U.S. commercial imagery industry.

The National Space Policy promulgated by Presidential Decision Directive-49 in September 1996 includes Commercial Space Guidelines to promote the development of a competitive U.S. commercial space imagery industry. The stated goal of the Policy is to enhance U.S. commercial space activities while at the same time protecting U.S. national security and foreign policy interests.

The Policy further directs U.S. Government agencies to purchase “commercially available” space goods and services to the fullest extent “feasible” and not to conduct activities with commercial applications that deter commercial space activities, except for reasons of national security or public safety.



One-meter pan-sharpened color image of the U.S. Capitol, collected by Space Imaging's Ikonos satellite. This image demonstrates current, first-generation commercial space imagery capability.

The 1996 Space Policy also explains that the U.S. Government will not provide direct federal subsidies to the commercial space industry. It should, however, facilitate “stable and predictable” U.S. commercial sector access to appropriate Government space-related hardware, facilities and data to stimulate private sector investment in and operation of space assets.

Over the last several years, NRO and NIMA officials have considered the means by which the commercial imagery industry could complement U.S. Government collection, analysis and dissemination capabilities to support Government needs. Substantial Government purchases of commercial imagery were promised. As a result, there were high expectations in the private sector.

However, such purchases have been relatively insignificant. Questions have been raised about the effectiveness of the Government's plan for buying imagery products and services.

Criticism has been directed at the process for transferring Government technologies that will be needed if the U.S. commercial imagery industry is to be successful. How these issues are resolved will have a great impact on the long-term viability of the industry and its ability to generate products and services of use to the U.S. Government.

Space Imagery as a “Commodity.” The basic technology for collecting and processing high-resolution images from space has become available to an increasing number of nations. Ally or adversary, all nations that have developed or are developing a space-based imagery capability have expressed an intention to serve civil sector needs and, in most cases, to offer the images to the commercial market.

Government Acquisition of Commercial Imagery. Over time, the Government has clearly tended toward greater dependence on private sector sources for many of its needs. This has included an extraordinary range of technologies, components, subsystems, and services, as well as integrated systems ranging from micro-electronics to space launch vehicles.

A decision to rely on commercial imagery to supply some portion of U.S. Government imagery needs necessarily raises questions about whether the private sector can be relied on to provide services of sufficient quality and timeliness. Further questions relate to how best to structure Government procurement of commercial imagery.

Of no less importance is the question of whether domestic or international sale of high-resolution images will adversely affect the interests of the U.S. Government. These interests include ensuring the security of U.S. and allied military deployments and operations and preventing U.S. adversaries from acquiring

information that will aid them in conducting denial and deception operations.

The U.S. commercial imagery industry has made substantial investments in current first-generation space imaging systems and it proposes to make even larger investments in planned second-generation systems. It is also making additional investments to improve the quality, accuracy and timeliness of these systems. Many of these improvements respond to earlier U.S. Government assessments that were skeptical of the utility of commercial imaging systems to the Government.

The commercial imaging industry has received mixed signals from the U.S. Government. While the NRO and NIMA have publicly expressed support for the commercial imaging industry, only minimal Commercial Imagery Program funding has been made available to the industry and future funding has not been added.

The lack of U.S. Government commitment to acquire commercial imagery is further demonstrated by managerial problems that have emerged in NIMA's Commercial Imagery Program. There is no continuity in the Program and the program manager has been changed frequently.

The Commission supports Government purchases of one meter and one-half meter resolution commercial imagery, which can meet a large percentage of U.S. Government imagery requirements. Because of the lack of demonstrated commitment, the Commission believes there is a need for an overall assessment—independent of the NRO—of the utility of commercial technologies to supplement traditional NRO missions.

Assuming that imagery of the required resolution and timeliness is available from both the NRO and the commercial imagery industry, under present procedures NIMA will have a natural

preference for NRO imagery over commercial imagery. NIMA does not have to purchase NRO imagery; it is “free.”

To deal with similar tendencies in determining whether to use military or commercial airlift capabilities, DoD has created an industrially funded account. The manager of this account determines for the customer whether military or civilian airlift best meets the customer’s needs within the budget resources available. Thus, the use of a C-17 aircraft for a routine peacetime cargo flight to a modern European airport is unlikely since a commercial aircraft could perform the same task far more cheaply. The military aircraft would be chosen when circumstances (e.g., unprepared runways) justify doing so.

With regard to U.S. Government imagery requirements, a number of critical national security interests can only be met by Government systems. However, a large number of targets can be covered by commercial capabilities. Through an approach to imagery analogous to DoD’s military/civilian airlift practice, Government systems would be focused on targets where their unique capabilities in resolution and revisit times are important, while commercial systems would be used to provide processed “commodity” images.

In the long term, such a division of labor between the public and private sectors will allow the commercial sector to develop without a U.S. Government subsidy. A predictable market will be created, and private sector investors will be able to establish an infrastructure to meet predictable U.S. Government needs. Current Government acquisition practices for commercial imagery have helped create an unpredictable market. This substantially increases the risk to investors and diminishes the ability of the commercial imagery sector to meet U.S. Government needs.

Government Licensing of Commercial Imagery Systems. In March 1994, President Clinton signed Presidential Decision

Directive (PDD)-23 establishing a policy permitting U.S. firms to obtain licenses to market imagery products and systems commercially. Its stated goal was to enhance U.S. competitiveness in space imagery capabilities, while protecting U.S. national security and foreign policy interests.

Delays in the U.S. Government licensing approval process, along with several recent failures in commercial satellite ventures and the mixed signals on purchases by the U.S. Government described earlier, are causing investors to reevaluate their financial support for the U.S. space imagery industry. This financial environment, coupled with the decline in the scale and pace of U.S. Government satellite programs, is weakening the portion of the U.S. industrial base that provides the foundation for the NRO's space programs. The skilled workforce on which both the NRO and the commercial imagery industry rely has been eroding, while research and development investment that leads to the technological change necessary for the United States to maintain its global dominance in space has been falling.

In some cases, particularly those involving "first time" applications for licensing of newer technologies, U.S. commercial imagery firms report having faced delays of more than 30 months in getting responses to licensing applications. This is far longer than even the processing time now needed for an export license for defense products.

Planning, building and placing a commercial satellite in orbit requires approximately three to five years to meet required launch and replenishment schedules. In the private sector, strict adherence to these schedules is essential to persuade customers and investors that services will be provided as advertised and that earnings projections will be met. Obviously, a wait of three years for the needed license approvals is not consistent with a commercial space imagery initiative on a five-year development schedule.

The way in which U.S. policy on licensing of commercial imagery initiatives is being implemented is likely to have an adverse effect on the long-term security, commercial and industrial interests of the United States. The present impediments to acquisition and development of commercial imagery will diminish the industrial base available to support U.S. Government space-based imagery needs.

Meanwhile, foreign competitors in the commercial imagery industry enjoy relative freedom from U.S. export and licensing controls. These foreign firms could dominate the global remote sensing market in the 2005 timeframe if their U.S. counterparts are stymied by an ineffective national strategy and a U.S. Government bureaucracy that cannot keep pace with the global marketplace. The United States is in danger of losing an opportunity to develop this market, while stimulating foreign investment in it.

U.S. Defense and Intelligence Community officials are justly concerned that such high-resolution imagery could give adversaries of the United States the ability to monitor U.S. intentions and capabilities, particularly during future crises involving tactical military operations. While this risk certainly exists, current law allows the United States to exercise "shutter control" over U.S. commercial space imagery vendors and systems where necessary for national security or foreign policy reasons. This authority alleviates the risk to some extent.

More significantly, however, impeding the access of U.S. industry to this market is more likely to increase, rather than diminish, this risk by creating incentives for investors to create a capability outside the United States. Several countries are likely to possess high-resolution imagery satellites by 2005. As a result, whether or not U.S. companies are granted licenses to proceed with such systems, it appears that high-resolution imagery eventually will be available on the open market to anyone who can afford the price.

Report of the National Imagery and Mapping Agency Commission. As the Commission was in the final stages of preparing this Report, the Commission to Review the National Imagery and Mapping Agency (NIMA) made its report available. The Commission is pleased to note that the findings and recommendations of both reports are in close agreement in the area of commercial imagery. The Commission also joins the NIMA Commission in applauding the National Security Council's recent decision to approve two license applications for a one-half meter resolution commercial imagery satellite.

Recommendations

- **A clear national strategy that takes full advantage of the capabilities of the U.S. commercial satellite imagery industry must be developed by the President, Secretary of Defense and Director of Central Intelligence.**
- **The strategy must contain a realistic execution plan—with timelines, a commitment of the necessary resources and sound estimates of future funding levels.**
- **The strategy also should remove the current fiscal disincentives that discourage use of commercial imagery when it is technically sufficient to meet user needs.**
- **The NRO should work with NIMA to develop a new acquisition model for commercial imagery that will help create the predictable market necessary for the industry to become a reliable supplier to the U.S. Government. The acquisition model should include provisions for the pricing of imagery to the user from either the commercial or Government sources that reflect the cost of acquiring such images to the U.S. Government.**

- The Secretary of Defense and the Director of Central Intelligence should develop a strategy that recognizes the threat posed to the United States by the likely availability of commercial space imagery to opponents of the United States.

NRO Airborne Reconnaissance Responsibilities

Strategic airborne reconnaissance requires serious attention. The earliest NRO reconnaissance successes included strategic

Too often, space reconnaissance and strategic airborne reconnaissance are viewed as mutually exclusive capabilities.

airborne, as well as space, platforms. Examples include the U-2 and SR-71 aircraft. Al-

though the NRO still has responsibility for such systems according to a 1964 DoD Directive still in effect, the Commission is unaware that any strategic airborne reconnaissance systems are being considered for further development by the NRO.

Too often, space reconnaissance and strategic airborne reconnaissance are viewed as mutually exclusive capabilities. In fact, they are quite complementary and contribute unique support to a tiered concept of intelligence collection.

Space-based reconnaissance can monitor the entire globe in an unobtrusive, non-threatening way. However, satellites cannot supply long-term, uninterrupted, focused, multi-intelligence coverage of a limited area of interest. Airborne reconnaissance can supply excellent coverage of limited areas, but can be threatened by hostile action and affected by over-flight restrictions.

Aircraft payloads can be changed for specific missions and updated as technology improves. Satellite payloads are fixed in design early and flown for the life of the vehicle with limited ability to

update functions. If a tiered collection management scheme were used to combine satellite “tip off” and “deep look” capabilities with aircraft flexibility and dwell capabilities, national strategic and tactical requirements would be well served.

In the early 1990’s, the Defense Airborne Reconnaissance Office (DARO) was established. This was intended in part to provide a comprehensive approach to all strategic and tactical airborne reconnaissance platforms. When DARO was abolished, responsibilities for the development of airborne reconnaissance systems passed to the military services. The Intelligence Community therefore has to depend on the military services for intelligence from airborne platforms.

Very high altitude, long range airborne reconnaissance systems provide strategic value and accessibility. These systems merit continued examination by the NRO in light of the features they share in common with space systems.

To achieve and maintain a proper balance between space-based and airborne reconnaissance, the Commission believes the NRO needs to restore its interest in airborne platforms and participate in engineering studies to select the proper platform for the required mission.

Recommendation

- **The NRO should participate jointly with other agencies and departments in strategic airborne reconnaissance development. Specifically, the NRO should supply system engineering capabilities and transfer space system technologies to airborne applications.**



APPENDIX A

LIST OF RECOMMENDATIONS

Overall Finding and Conclusion

- The Commission concludes that the National Reconnaissance Office demands the personal attention of the President of the United States, the Secretary of Defense and the Director of Central Intelligence. It must remain a strong, separate activity, with a focus on innovation, within the Intelligence Community and the Department of Defense. Failure to understand and support the indispensable nature of the NRO as the source of innovative new space-based intelligence collection systems will result in significant intelligence failures. These failures will have a direct influence on strategic choices facing the nation and will strongly affect the ability of U.S. military commanders to win decisively on the battlefield.

NRO Mission

- The Secretary of Defense and Director of Central Intelligence must direct that the NRO mission be updated and focused as a first priority on the development, acquisition and operation of highly advanced technology for space reconnaissance systems and supporting space-related intelligence activities, in accordance with current law.
- The Secretary of Defense and Director of Central Intelligence should determine the proper roles for the NRO,

National Security Agency, National Imagery and Mapping Agency, and Central MASINT Organization in Tasking, Processing, Exploitation, and Dissemination activities.

NRO Technological Innovation

- The President of the United States, the Secretary of Defense and the Director of Central Intelligence must pay close attention to the level of funding and support for the NRO Director's research, development and acquisition effort.
- The Secretary of Defense and Director of Central Intelligence should ensure common understanding of the NRO's current and future capabilities and the application of its technology to satisfy the needs of its mission partners and customers.

Office of Space Reconnaissance

- The Secretary of Defense and the Director of Central Intelligence should establish a new Office of Space Reconnaissance under the direction of the Director of the NRO. The Office should have special acquisition authorities, be staffed by experienced military and CIA personnel, have a budget separate from other agencies and activities within the National Foreign Intelligence Program, be protected by a special security compartment, and operate under the personal direction of the President, Secretary of Defense and Director of Central Intelligence.

The Secretary of Defense—Director of Central Intelligence Relationship

- The President must take direct responsibility to ensure that the Secretary of Defense and Director of Central Intelligence relationship regarding the management of the NRO is functioning effectively.
- The President should direct the development of a contemporary statement defining the relationship between the Secretary of Defense and Director of Central Intelligence with regard to their management of the NRO.

Balanced Response to Customer Demands

- The Secretary of Defense and the Director of Central Intelligence must work closely together to ensure that proper attention is focused on achieving the appropriate balance between strategic and tactical requirements for NRO systems, present and future.
- The Presidential Decision Directive (PDD-35) that establishes priorities for intelligence collection should be reviewed to determine whether it has been properly applied and should remain in effect or be revised.
- The imagery intelligence and signals intelligence requirements committees should be returned to the Director of Central Intelligence in order to ensure that the appropriate balance and priority of requirements is achieved each day.
- The Secretary of Defense and Director of Central Intelligence should undertake an educational effort to ensure that Intelligence Community members and customers are properly trained in the requirements process, the cost of NRO support, and in their responsibilities in requesting NRO support.

Defense Space Reconnaissance Program (DSRP)

- The Secretary of Defense, in consultation with the Director of Central Intelligence, should re-establish the Defense Space Reconnaissance Program as a means of funding tactical military requirements for NRO systems and architectures.

Increased Resource and Budgetary Flexibility

- The Director of Central Intelligence should be granted greater latitude to redirect funds among intelligence collection activities and agencies in order to respond most effectively to the specific types of issues that arise in NRO programs.
- Transfers greater than \$10 million would continue to require the concurrence of the affected Secretary or agency head. This could be coupled with a provision to allow a Secretary or agency head who has objections to such transfers the opportunity to appeal the Director of Central Intelligence's decision to the President.
- The requirement that such transfers be made known to the appropriate congressional committees should not be altered.

NRO Technical Expertise

- The Secretary of Defense and the Director of Central Intelligence should jointly establish NRO career paths to ensure that a highly skilled and experienced NRO workforce is continued and sustained.

Increased Launch Program Risks

- The NRO Director, with the support of the Air Force Materiel Command and Space and Missile Systems Center, should develop a contingency plan for each NRO program or set of programs. These plans should describe risks, contingency options and failure mitigation plans to minimize satellite system problems that might result from satellite or launch vehicle failures.
- The Secretary of Defense and Director of Central Intelligence should establish independent teams to conduct pre-launch assessments of non-traditional areas of risk. These teams should be made up of recognized space launch experts and be granted whatever special authorities and accesses are required to perform their duties.
- The Commission to Assess United States National Security Space Management and Organization should evaluate the need for an improved organization structure to provide launch capability and operations for the deployment and replenishment of NRO and DoD satellites.

Commercial Satellite Imagery

- A clear national strategy that takes full advantage of the capabilities of the U.S. commercial satellite imagery industry must be developed by the President, Secretary of Defense and Director of Central Intelligence.
- The strategy must contain a realistic execution plan—with timelines, a commitment of the necessary resources and sound estimates of future funding levels.
- The strategy also should remove the current fiscal disincentives that discourage use of commercial imagery when it is technically sufficient to meet user needs.

- The NRO should work with NIMA to develop a new acquisition model for commercial imagery that will help create the predictable market necessary for the industry to become a reliable supplier to the U.S. Government. The acquisition model should include provisions for the pricing of imagery to the user from either the commercial or Government sources that reflect the cost of acquiring such images to the U.S. Government.
- The Secretary of Defense and the Director of Central Intelligence should develop a strategy that recognizes the threat posed to the United States by the likely availability of commercial space imagery to opponents of the United States.

NRO Airborne Reconnaissance Responsibilities

- The NRO should participate jointly with other agencies and departments in strategic airborne reconnaissance development. Specifically, the NRO should supply system engineering capabilities and transfer space system technologies to airborne applications.



APPENDIX B

LIST OF WITNESSES

The following is a list of witnesses who appeared before the Commission. All hearings were held in Washington, D.C. Affiliations listed are as of the time of the appearance.

Charles E. Allen	Assistant Director of Central Intelligence for Collection
James L. Armitage	Vice President, Baltimore Operations, Northrop Grumman Corporation
John T. Baran	Vice President, Business Development & Strategic Planning, BAE Systems
Jeffrey P. Bialos	Deputy Under Secretary of Defense for Industrial Affairs
VADM Herbert A. Browne, USN	Deputy Commander-in-Chief, United States Space Command
Joseph R. Cabrera	Manager, Space Systems, The Harris Corporation
Gene Colabatistto	President, SPOT Image Corporation
John R. Copple	Chairman and Chief Executive Officer, Space Imaging
Kenneth C. Dahlberg	Executive Vice President, Business Development, Raytheon International
Joseph K. Dodd	Vice President, Government Programs, Orbimage
Frederick J. Doyle	Director, Systems Engineering & Integration, Space Imaging
Robert H. Dumais	Executive Vice President, Special Programs, Lockheed Martin Corporation
Margaret Evans	Former official, Office of Management & Budget

List of Witnesses

James W. Evatt	Executive Vice President, Space & Communications, The Boeing Company
VADM David E. Frost, USN (Ret.)	Former Deputy Commander-in-Chief, United States Space Command
John C. Gannon	Assistant Director of Central Intelligence for Analysis and Production; Chairman, National Intelligence Council
Dr. Robert Gates	Former Director of Central Intelligence
Keith R. Hall	Director, National Reconnaissance Office & Assistant Secretary of the Air Force for Space
LtGen Michael V. Hayden, USAF	Director, National Security Agency
Leo Hazlewood	Former Deputy Director, National Imagery and Mapping Agency
Dr. Terry W. Heil	Vice President, Raytheon Company
Joanne O. Isham	Deputy Director for Science & Technology, Central Intelligence Agency
ADM David E. Jeremiah, USN (Ret.)	Former Vice Chairman, Joint Chiefs of Staff
Dr. Paul Kaminski	Former Under Secretary of Defense for Acquisition and Technology
David A. Kier	Deputy Director, National Reconnaissance Office & Principal Deputy Assistant Secretary the Air Force for Space
LTG James C. King, USA	Director, National Imagery and Mapping Agency
Ken K. Kobayaski	Vice President & General Manager, National Security Programs, Hughes Space & Communications Company

Tig H. Krekel	President & Chief Executive Officer, Hughes Space & Communications Company
MajGen Nathan J. Lindsay, USAF (Ret.)	Former Director, Secretary of the Air Force Special Program Office & Former Director, Program A, National Reconnaissance Office
James Manchisi	Vice President, Commercial and Government Systems, Eastman Kodak Company
Col James T. Mannen, USAF (Ret.)	Former Director, Imagery Intelligence Directorate, National Reconnaissance Office
Carl A. Marchetto	President, Commercial and Government Systems & Vice President Eastman Kodak Company
John E. McLaughlin	Deputy Director for Intelligence, Central Intelligence Agency
MajGen Howard J. Mitchell, USAF	Director, National Security Space Architect
Arthur L. Money	Assistant Secretary of Defense for Command, Control, Communications and Intelligence
Gen Thomas S. Moorman, Jr., USAF (Ret.)	Former Vice Chief of Staff, United States Air Force & Vice President, Government Sector, Booz-Allen & Hamilton
Joseph Movizzo	Former General Manager, IBM Global Services Consulting Group
Gen Richard B. Myers, USAF	Vice Chairman, Joint Chiefs of Staff
LTG William E. Odom, USA (Ret.)	Former Director, National Security Agency

List of Witnesses

Dr. William Perry	Former Secretary of Defense
James A. Proctor	Vice President & General Manager, Government Communications Systems, The Harris Corporation
Rodger C. Rawls	Vice President, Government Relations, BAE Systems
Roger F. Roberts	Vice President & General Manager, Integrated Defense Systems, The Boeing Company
James G. Roche	Corporate Vice President & President, Electronic Sensors and Systems, Northrop Grumman Corporation
Gilbert D. Rye	President, Orbimage
Walter Scott	Chief Technical Officer, EarthWatch, Incorporated
James M. Simon, Jr.	Assistant Director of Central Intelligence for Administration
Albert E. Smith	Executive Vice President, Space Systems, Lockheed Martin Corporation
Carol A. Staubach	Director, Advanced Systems & Technology, National Reconnaissance Office
ADM William O. Studeman, USN (Ret.)	Deputy General Manager, Intelligence & Information Superiority, TRW Systems & Information Technology Group
Dr. Edward G. Taylor	Chief, Communications and Information Technology, Massachusetts Institute of Technology Lincoln Laboratories
W. David Thompson	Founder, President, & Chief Executive Officer, Spectrum Astro, Inc.

Col Vic Whitehead, USAF (Ret.) Former System Program Director, Expendable Launch Vehicles & former Vice President, Space Launch Systems, Lockheed Martin Astronautics

Donald C. Winter Executive Vice President & General Manager, Systems & Information Technology Group, TRW



APPENDIX C

LIST OF INTERVIEWS

The following is a list of individuals who were interviewed by Commission Staff or members of the Commission. Affiliations listed reflect the individual's primary association as of the time of the interview. The list does not include numerous briefings provided to members of the Commission and Commission Staff by various U.S. Government officials.

Paul Albright	Imagery Intelligence Directorate, National Reconnaissance Office
Edward "Pete" C. Aldridge	President and Chief Executive Officer, The Aerospace Corporation
Col Erik Anderson, USAF (Ret.)	Senior Associate, Booz-Allen & Hamilton Inc.
Chris Andrews	Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
MajGen Brian Arnold	Director of Space and Nuclear Deterrence, Office of the Assistant Secretary of the Air Force for Acquisition
Gen Joseph W. Ashy, USAF (Ret.)	Former Commander-in-Chief, United States Space Command
Larry Axtell	Office of Under Secretary of Defense for Acquisition, Technology, and Logistics
Col Mike Baker, USAF	Deputy Program Manager, Titan Programs, Air Force Space & Missiles Systems Center
Dr. Marshall Banker	President, BAE Systems

List of Interviews

Dr. David A. Bearden	Senior Project Engineer, The Aerospace Corporation
Maj Betty Bennett, USAF	Office of Space Launch, National Reconnaissance Office
RADM Thomas Betterton, USN (Ret.)	Former Director, Program C, National Reconnaissance Office
Marc Berkowitz	Director, Space Policy, Office of the Assistant Secretary of Defense for Command, Control, Communication, and Intelligence
Dave Bradley	Delta IV Mission Services, The Boeing Company
Roy Bridges	Director, Kennedy Space Center, National Aeronautics and Space Administration
Joseph V. Broadwater, Jr.	Corporate Operations Office, National Reconnaissance Office
Bobby Bruckner	Director, Expendable Launch Vehicles, Kennedy Space Center, National Aeronautics and Space Administration
Jon H. Bryson	Senior Vice President, National Systems Group, The Aerospace Corporation
Laurence K. Burgess	Associate Deputy Director for Military Support, National Reconnaissance Office
David Burke	Launch Systems Engineering and Operations, Hughes Space and Communications
Steve Burrin	Vice President, Space Program Operations, The Aerospace Corporation
Roger Campbell	Human Resources Management Group, National Reconnaissance Office

Dr. Stephen Cambone	Staff Director, Commission to Assess the United States National Security Space Management and Organization
Dr. Gregory H. Canavan	Los Alamos National Laboratory
Noel Clinger	Imagery Intelligence Directorate, National Reconnaissance Office
Brent Collins	Program Executive Officer for Space, Office of the Assistant Secretary of the Air Force for Acquisition
Dr. Robert E. Conger	Vice President, MicroCosm, Incorporated
Thomas W. Conroy	Deputy Director for National Support, National Reconnaissance Office
Col Charles Crain, USAF	Program Manager, Titan Programs, Air Force Space & Missiles Systems Center
BGen Tommy F. Crawford, USAF	Deputy Director for Military Support, National Reconnaissance Office
James P. Crumley, Jr.	Vice President, Government Relations, ITT Industries
John Cunningham	System Program Director, National Polar Orbiting Environmental Satellite System, National Oceanic & Atmospheric Administration
Brian Dailey	Senior Vice President, Lockheed Martin Corporation
John H. Darrah	Former Chief Scientist, Air Force Space Command
LtGen Roger DeKok, USAF	Deputy Chief of Staff for Plans & Programs, Headquarters, United States Air Force
Vincent W. Dennis	Deputy Director, Resource Oversight and Management, National Reconnaissance Office

List of Interviews

MajGen Robert S. Dickman, USAF	Director, Corporate Operations Office, National Reconnaissance Office
Linda Drake	Principal Director, Evolved Expendable Launch Vehicles, The Aerospace Corporation
Darleen Druyun	Principal Deputy Assistant Secretary of the Air Force for Acquisition & Management
Fred Dubay	Imagery Intelligence Directorate, National Reconnaissance Office
McClellan “Guy” A. DuBois	Vice President, Imagery & Geospatial Systems, Business Development, Raytheon Corporation
Dr. Bob Duffner	Senior Scientist, Air Force Research Laboratory
Jim Dunn	Collection Resources and Evaluation Staff, Central Intelligence Agency
Col Mike Dunn, USAF	System Program Director, Launch Programs, Air Force Space & Missiles Systems Center
Blaise Durante	Deputy Assistant Secretary for Management Policy & Program Integration, Office of the Assistant Secretary of the Air Force for Acquisition
Col Steve Duresky, USAF	Vice Commander, 45th Space Wing, Air Force Space Command
Lloyd Erickson	Chief Executive Officer, Astrotech Corporation
Gen Howell M. Estes III, USAF (Ret.)	Former Commander-in-Chief, United States Space Command
Bill Files	Launch Vehicle Integration Lead, Future Imagery Architecture Program, The Boeing Company
Don Finch	Corporate Operations Office, National Reconnaissance Office

RADM Rand H. Fisher, USN	Director, Communications Directorate, National Reconnaissance Office
Dennis D. Fitzgerald	Director, Signals Intelligence Directorate, National Reconnaissance Office
Mike Gass	Vice President, Atlas Program, Lockheed Martin Astronautics
Gina Genton	Deputy Executive Director, Central Intelligence Agency
LtCol Tony Goins, USAF	Commander, 3rd Space Launch Squadron, Air Force Space Command
James Greaves	Associate Director, Flight Programs and Projects, Goddard Space Flight Center, National Aeronautics and Space Administration
William Grimes	Director, BIG SAFARI Program, United States Air Force
Col Arsenio Gumahad, USAF	Deputy Director, Communications Directorate, National Reconnaissance Office
Dr. Herb Gursky	Superintendent, Space Science Division, Naval Research Laboratory
R. Cargill Hall	Historian, National Reconnaissance Office
BGen Michael Hamel, USAF	Director of Requirements, Air Force Space Command
Patricia M. Hanback	Inspector General, National Reconnaissance Office
Jeffrey Harris	President, Space Imaging
Marsha Hart	Deputy Chief, Defense Collection Group, Defense Intelligence Agency
Richard Hartley	Director, Cost Group, National Reconnaissance Office
Jimmie D. Hill	Former Deputy Director, National Reconnaissance Office

List of Interviews

J. Evan Hineman	Former Deputy Director for Science & Technology, Central Intelligence Agency, and Former Director, Program B, National Reconnaissance Office
MajGen Robert Hinson, USAF	Commander, 14th Air Force, Air Force Space Command
Murray Hirschbein	Assistant Chief Technologist, National Aeronautics and Space Administration
Col Brown Howard, USAF	Corporate Operations Office, National Reconnaissance Office
William B. Huntington	Chief, Defense Collection Group, Defense Intelligence Agency
LtCol Jimmy Hyatt, USAF	Commander, 2nd Space Launch Squadron, Air Force Space Command
LtCol Nancy Insprucker, USAF	Program Manager, Medium Launch Vehicles, Air Force Space & Missiles Systems Center
Larry Jackson	Special Projects, GOES Program Lead, Hughes Space and Communications
Dana Johnson	RAND Corporation
Dr. Peter Jones	Senior Scientist, Air Force Research Laboratory
John Karas	Vice President, Evolved Expendable Launch Vehicles, Lockheed Martin Astronautics
Lance Killoran	Signals Intelligence Directorate, National Reconnaissance Office
Col Michael C. Kimberling, USAF	Imagery Intelligence Directorate, National Reconnaissance Office
Gil Klinger	Director, Policy, National Reconnaissance Office

MajGen John Kulpa, USAF (Ret.)	Former Launch Director, National Reconnaissance Office
Gen Donald Kutyna, USAF (Ret.)	Former Commander-in-Chief United States Space Command
Michael Lodomirak	Associate Director for Acquisition, Goddard Space Flight Center, National Aeronautics and Space Administration
John Landon	Principal Director, Deputy Secretary of Defense for C3ISR and Space
Kirk Lewis	Senior Analyst, Institute for Defense Analyses
Alex Liang	Principal Director, Systems Engineering, The Aerospace Corporation
Noel Longuemare	Former Deputy Under Secretary of Defense for Acquisition and Technology
Brad Lucas	Office of Deputy Director of Central Intelligence for Community Management
Tom Luedtke	Associate Administrator for Procurement, National Aeronautics and Space Administration
Don Mackenzie	Senior Analyst, Wyle Laboratories
Edward Mahen	Advanced Systems & Technology Directorate, National Reconnaissance Office
Bill Maikisch	Executive Director, Air Force Space & Missiles Systems Center
James Manchisi	Vice President, Government Markets, Commercial & Government Systems, Eastman Kodak Company
John Mari	Vice President, Quality Assurance, Lockheed Martin Astronautics

List of Interviews

G. Thomas Marsh	President, Lockheed Martin Astronautics
Roman Matherne	Vice President, Mission Success, Lockheed Martin Astronautics
Del Matz	Acting Director, Defense Contract Management Office at Lockheed Martin Astronautics
Gene H. McCall	Chief Scientist, Air Force Space Command
LtGen James P. McCarthy, USAF (Ret.)	Olin Professor of National Security, Air Force Academy
Mary McCarthy	Director of Intelligence Programs, National Security Council
LtGen Forrest McCartney, USAF (Ret.)	Vice President, Launch Operations, Lockheed Martin Astronautics
Col Richard D. McKinney, USAF	Deputy Director of Space & Nuclear Deterrence, Office of the Assistant Secretary of the Air Force for Acquisition
John McMahon	Former Deputy Director of Central Intelligence
Martin A. Meth	Director, Industrial Capabilities and Assessments, Office of the Under Secretary of Defense for Acquisition and Technology
James C. Metsala	Director, Program Development, Commercial & Government Systems, Eastman Kodak Company
Lisa Miller	Office of General Counsel, National Reconnaissance Office
Col Darphaus Mitchell, USAF	Commander, 45th Operations Group, Air Force Space Command
Page Moffett	General Counsel, National Reconnaissance Office
John Morris	Former Director, Central MASINT Organization, Defense Intelligence Agency

LtGen George Mueller, USAF (Ret.)	Vice President and General Manager, Phantom Works, The Boeing Company
Mike Munson	Former Deputy Director for National Support, National Reconnaissance Office
Col Greg Muntzner, USAF	Commander, Detachment 8, Air Force Space & Missiles Systems Center
Rich Murphy	Vice President, Cape Canaveral Launch Operations, The Boeing Company
Dr. F. Robert Naka	Former Deputy Director, National Reconnaissance Office
Rich Niederhauser	Director, Vandenberg Operations, The Boeing Company
Kevin O'Connell	Staff Director, Commission for the Review of the National Imagery & Mapping Agency
Col James Painter, USAF	Chief, Policy & International Affairs Division, United States Space Command
Robert Pattishall	Former Director, Advanced Systems & Technology Directorate, National Reconnaissance Office
Dr. Antonio Pensa	Lincoln Laboratory, Massachusetts Institute of Technology
Mal Peterson	Comptroller, National Aeronautics and Space Administration
Col Charles Phillips, USAF	Vice Commander, 30th Space Wing, Air Force Space Command
LtCol Betsy Pimental, USAF	Office of the National Security Council
Dominic Pohl	Executive Officer, Mission Requirements Board, Office of Deputy Director of Central Intelligence for Community Management

List of Interviews

Karen Poniatowski	Director, Expendable Launch Vehicles, National Aeronautics and Space Administration
Dave Raspet	Director, Special Projects, Integrated Defense Systems, The Boeing Company
Rodger C. Rawls	Vice President, Market Development, BAE Systems
Col Dave Riester, USAF	Office of the Joint Chiefs of Staff
Keith Robertson	Cost Estimate Group, National Reconnaissance Office
CAPT Matt Rogers, USN	Signals Intelligence Directorate, National Reconnaissance Office
LtCol Pete Rogers, USAF	Corporate Operations Office, National Reconnaissance Office
John Sastri	Signals Intelligence Directorate, National Reconnaissance Office
Herbert F. Satterlee, III	Chairman, Earthwatch, Incorporated
Col Robert Saxer, USAF	System Program Director, Evolved Expendable Launch Vehicles, Air Force Space & Missiles Systems Center
BGen Thomas Scanlan, USAF (Ret.)	Vice President, Titan Program, Lockheed Martin Astronautics
Kevin Scheid	Deputy Director, Program Assessment and Evaluation Office, Office of Deputy Director of Central Intelligence for Community Management
Terry Schoessow	Principal Director, Office of Space Launch, The Aerospace Corporation

Dr. Phil Schwartz	Superintendent, Remote Sensing Division, Naval Research Laboratory
Col Darryl Scott, USAF	Deputy Assistant Secretary for Contracting, Office of the Assistant Secretary of the Air Force for Acquisition
Mark Scott	Collection Resources and Evaluation Staff, Central Intelligence Agency
Mark R. Seastrom	Office of the Secretary of Defense for Program Analysis & Evaluation
John H. Seely	Assistant Director for National Intelligence, Surveillance and Reconnaissance Systems, Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
Laura Senty	Collection Resources and Evaluation Staff, Central Intelligence Agency
Orlando C. Severo, Jr.	Chief Executive Officer, Spaceport Systems International
Col Richard W. Skinner, USAF	Principal Director, C3ISR and Space Systems, Office of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence
Britt Snider	Inspector General, Central Intelligence Agency
Albert Sofge	Director, Office of Space Flight, National Aeronautics and Space Administration
BGen Joseph B. Sovey, USAF	Director, Imagery Intelligence Directorate, National Reconnaissance Office
Mike Spence	Director, Cape Canaveral Operations, The Aerospace Corporation
Dr. Edwin B. Stear	Vice President, Institute for Defense Analyses

List of Interviews

Michelle Stewart	Corporate Operations Office, National Reconnaissance Office
Col Dave Svetz, USAF	Signals Intelligence Directorate, National Reconnaissance Office
LtGen Eugene Tattini, USAF	Commander, Air Force Space & Missiles Systems Center
Col Dave Trask, USAF	Central MASINT Organization, Defense Intelligence Agency
Dr. Richard Truly	Former Administrator, National Aeronautics and Space Administration
Tish Vajta-Williams	Vice-President, Strategic Business Development, Space Imaging
Victor Villhard	Office of the President's Advisor for Science and Technology Policy
Col John Wagner, USAF	Commander, Detachment 9, Air Force Space & Missiles Systems Center
Harry Waldron	Historian, Air Force Space & Missile Systems Center
Jack Welch	Former Assistant Secretary of the Air Force for Acquisition
Gen Larry Welch, USAF	Former Chief of Staff, United States Air Force
Col Daniel W. Wells, USA	Director, Operational Support Office, National Reconnaissance Office
Dr. James R. Wertz	President, MicroCosm, Incorporated
BGen Craig Weston, USAF	Chief Information Officer and Director, Corporate Operations Office, National Reconnaissance Office
Dr. Peter Wilhelm	Director, Naval Center for Space Technology, Naval Research Laboratory

John Willacker	Vice President, Launch Systems, The Aerospace Corporation
BGen Bill Wilson, USAF	Vice Commander, Air Force Space & Missile Systems Center
Jeff Wilson	Vice President and General Manager for Atlas and EELV Programs, Lockheed Martin Astronautics
Col Steve Wojcicki, USAF	Director, Office of Space Launch, National Reconnaissance Office
Tony Wu	Office of Management and Budget, White House
Dr. Peter Young	Professor, Massachusetts Institute of Technology
Col Chip Zakrzewski, USAF	Deputy Director, Office of Space Launch, National Reconnaissance Office



APPENDIX D

HISTORICAL DEVELOPMENT OF THE SECRETARY OF DEFENSE—DIRECTOR OF CENTRAL INTELLIGENCE RELATIONSHIP WITH THE NRO

Background. The Director of the NRO is responsible for reporting to both the Secretary of Defense and the Director of Central Intelligence (DCI). He is the head of a major component of the Intelligence Community that is also an agency of DoD. At the same time, he serves as the Assistant Secretary of the Air Force for Space. This tri-cornered arrangement has resulted in some of the greatest historical strength of the NRO because it has allowed the NRO Director to draw on the resources and benefit from the advocacy of the two major forces in the Intelligence Community and the Department of Defense.

It has also been however, the source of some of the current tensions regarding the NRO because of the ambiguity in command and accountability that is the natural consequence of the arrangement. Further, some would argue that the uncertain situation in which the NRO finds itself today—with requirements rising and budgets flat or falling—can be traced in part to that ambiguity and the resulting inadequacy of the Secretary of Defense-DCI relationship as a means for dispute resolution. On the other hand, one

prominent witness testified to the Commission that the Secretary of Defense and the DCI were appropriately “stuck with” the problem of running the NRO and simply had to make it work no matter how difficult it was, simply because of the NRO’s importance to national security.

The current Secretary of Defense-DCI relationship regarding the NRO is significantly different than it was before 1990. This is due primarily to dynamic changes that have affected the NRO’s traditional missions and its relationship with the various agencies it supports, and to Congressional actions that were taken in the 1990s.

1960 – 1970: The Drift Toward DoD. The relationship between the Secretary of Defense and the DCI regarding the NRO was originally described in four agreements that were consummated in the 1960s by a series of Deputy Secretaries of Defense and DCIs. According to the NRO General Counsel, these four agreements are all considered by the NRO to still be in effect, although a series of Executive Orders and Congressional amendments to the National Security Act of 1947 have had a significant impact on the relationship.

The first agreement is dated September 6, 1961 and was focused on the creation of a National Reconnaissance Program (NRP) within the Department of Defense to include all overt and covert satellite and over-flight reconnaissance projects. The agreement also recorded the creation of the NRO to manage the NRP under the joint direction of the Under Secretary of the Air Force and the CIA’s Deputy Director for Plans who were to see to the implementation of NRO decisions within their respective organizations. The NRO was to respond to collection requirements and priorities established by the United States Intelligence Board (USIB). The NRO “Directors” were to establish procedures to ensure that “the particular talents, experience and capabilities” of

DoD and the CIA were used fully and effectively in the NRP. Major NRP program elements and operations were to be subject to regular review by a National Security Council group.

The second agreement was signed by the parties on May 2, 1962 and contained policy guidance to ensure that, as had been urged in the prior agreement, “the particular talents, experience and capabilities” of DoD and the CIA were used fully and effectively in the NRP. It provided that there would be an NRO Director designated by the DCI and Secretary of Defense and responsible directly to them both for the management and conduct of the NRP. Further, personnel from DoD and CIA were to be assigned on a full-time basis to the NRO to take advantage of available capabilities and resources and DoD and CIA were to provide funds for the projects for which each had responsibility. The agreement also established technical and financial management, security and operational policies for the NRO Director to follow in sorting out the DoD and CIA interests in the NRP. It also stated that operational control of individual NRP projects would be assigned to the DoD or CIA by the NRO Director in accordance with policy guidance from the Secretary of Defense and the DCI. Finally, the second agreement provided that the NRO Director would be responsible for future NRP planning, but that all such planning would be coordinated with the DCI because of the DCI’s major responsibility for all intelligence programs.

The third agreement was dated March 13, 1963 and stated that it superseded the May 2, 1962 agreement. This agreement began to shift NRO management authority to DoD. Again in the name of ensuring effective utilization of DoD and CIA capabilities, it announced that the Secretary of Defense was the Executive Agent for the NRP. To carry out this responsibility, the Secretary was to establish the NRO as a separate operating agency within DoD. The NRO Director was to be appointed by the Secretary, with the

concurrence of the DCI, and a Deputy NRO Director was to be appointed by the DCI, with the concurrence of the Secretary. The NRO Director was to receive guidance from the Secretary and collection requirements and priorities from the USIB. The NRO Director was responsible for the management of the NRP, “subject to the direction, authority and control” of the Secretary of Defense. NRO budget requests were to be presented and substantiated by the NRO Director to the Secretary and DCI, the Bureau of the Budget and Congressional committees. The NRO Director was to report directly to the Secretary of Defense, while keeping the DCI currently informed.

The fourth agreement was completed on August 11, 1965 and was the most comprehensive. It furthered the swing of authority over the NRO to DoD and the Secretary of Defense. The agreement repeated that the Secretary was to establish the NRO as a separate agency of DoD, but made clear that he had “ultimate responsibility” for its management and operation. It also eliminated the requirement for DCI concurrence in the Secretary’s selection of the NRO Director. The DCI retained authority for appointing the Deputy NRO Director, but with the concurrence of the Secretary. The agreement also provided that the Secretary had “the final power” to approve the NRP budget and established the Secretary as the final decision-maker on all NRP issues. It also created an NRP Executive Committee (EXCOM) that consisted of the Deputy Secretary of Defense, DCI and the Assistant to the President for Science and Technology. The EXCOM was empowered to “guide and participate in the formulation of the NRP” in both budget and operational detail, but the Secretary of Defense was to be responsible to decide any EXCOM disagreement on any issue. The NRO was to be staffed to reflect the best talent available from CIA, DoD and other agencies, and this staff was to “maintain no allegiance to the originating agency.” Collection requirements and priorities were still to be provided by the USIB.

The Commission heard testimony that there was extreme turbulence in the DCI/Secretary of Defense relationship in the early days of the NRO. These early disagreements were centered around which agencies would be responsible for building and operating NRO systems rather than budgetary issues.

1970 – 1978: A Swing Back to the DCI. In November 1971, President Nixon issued a memorandum that increased the responsibility and authority of the DCI regarding the entire NFIP budget. This resulted, in early 1972, in the revision of a National Security Council Intelligence Directive (NSCID) that implemented the policy decisions contained in the presidential memorandum. The NSCID called for the DCI to chair and staff all intelligence committees and advisory boards, establish and reconcile all intelligence requirements and priorities, and submit a consolidated intelligence program and budget to the Office of Management and Budget. A few months later, the Intelligence Community Staff was created by DCI Richard Helms to support these additional functions.

In February 1973, James Schlesinger was confirmed as DCI. He had accepted the assignment based on a pledge from President Nixon that he would chair all of the intelligence committees, including the NRO EXCOM, as was now prescribed by the revised NSCID. With the DCI as EXCOM Chairman, the Deputy Secretary of Defense ceased attending meetings—he outranked the DCI at the time, and the Assistant Secretary of Defense for Intelligence began to attend in his place. President Nixon, meanwhile, dismissed the Science Advisor and dissolved the President's Science Advisory Council. This eliminated the NRO EXCOM's direct link to the President.

President Gerald Ford issued Executive Order 11905 in February 1976 to provide a public description of the structure and activities of the Intelligence Community. That Order stated that the

NRO, euphemistically identified as an office within DoD that collected intelligence through reconnaissance programs, was part of the Intelligence Community. It also established a Committee on Foreign Intelligence (CFI), which was composed of the DCI as Chairman, the Deputy Secretary of Defense for Intelligence and the Deputy Assistant to the President for National Security Affairs. The CFI reported to the National Security Council and was responsible for reprogramming NFIP funds and setting priorities for collection and production of national intelligence. As a result, the NRO EXCOM was disbanded. Control of NRP funds was now in the hands of the DCI instead of the Secretary of Defense.

The Ford Order also charged DoD with, among other things, directing, funding and operating national, defense and military intelligence and reconnaissance activities. The NRO was not specifically mentioned since its existence was still classified at this time.

Also in the mid-1970s, Congress created substantial additional Congressional oversight mechanisms as a result of its investigations of excesses by the Intelligence Community. In May 1976, the U.S. Senate established the Senate Select Committee on Intelligence (SSCI). In July 1977, the U.S. House of Representatives established the House Permanent Select Committee on Intelligence. As a result, Congressional staffs became heavily involved in review of the NRP and its current and proposed programs.

In January 1978, President Jimmy Carter issued Executive Order 12036, which replaced the Ford Order. It abolished the CFI and gave “full and exclusive authority” over the preparation of the NFIP budget to the DCI. The Order also established the Policy Review Committee to assess the NFIP budget and U.S. Intelligence priorities.

By the end of 1978, the NRO Director was reporting to the DCI on matters of NRP funding and requirements, and to the Secre-

tary of Defense on operational matters associated with strategic and tactical overhead reconnaissance. The DCI continued, as had been the case from the outset, to delegate to the NRO the special acquisition authority that the National Security Act of 1947 had provided to the CIA. Congressional involvement in the NRP had increased to the point that it began to direct the initiation of specific new programs.

Fiscal Year 1997 Intelligence Authorization Act: Restriking the Balance. Between 1978 and 1997, the formal written framework for the Secretary of Defense-DCI relationship remained unchanged. During that time, however, a disparity developed between the specified and the actual authorities of the DCI regarding the Intelligence Community. In 1992, Congress had enacted amendments to the National Security Act that provided a statutory basis for many of the DCI responsibilities that had been adopted previously by Executive Order. As noted in the March 1996 report of the Aspin-Brown Commission on the Roles and Capabilities of the Intelligence Community, however:

Taking these together, the DCI appears to have considerable authority vis-à-vis other elements of the Intelligence Community. In practice, however, this authority must be exercised consistent with the authority of the department heads to whom these elements are subordinate.

....

Notwithstanding his statutory authorities vis-à-vis the elements of the Intelligence Community, which on their face appear substantial, the DCI is left in a relatively weak position. It is not surprising, therefore, that most DCIs have chosen to spend the bulk of their time on other major functions, serving as the principal intelligence adviser to the President and head of the CIA

[instead of pursuing the role of head of the Intelligence Community].

Thus, the Secretary of Defense retained substantial real authority over the activities of the NRO, despite the titular responsibilities of the DCI. In recognition of this fact, the Aspin-Brown Commission recommended strengthening the authorities of the DCI, including his authorities over the NRO.

Acting on recommendations of the 1996 Aspin-Brown Commission Report, Congress enacted provisions of law that substantially changed the overall relationship between the Secretary of Defense and the DCI regarding the NRO and the other DoD agencies that are part of the Intelligence Community. These provisions, particularly Section 807 of the Fiscal Year 1997 Intelligence Authorization Act, were designed to enhance the authority of the DCI to influence the budget, personnel and activities of the Intelligence Community.

Specifically, the DCI was given specific statutory responsibility to develop the annual National Foreign Intelligence Program budget and also to participate in the development by the Secretary of Defense of the annual budgets for the Joint Military Intelligence Program (JMIP) and the Tactical Intelligence and Related Activities Program. In addition, the DCI was given statutory authority to approve any reprogramming of funds within the NFIP and to be consulted with regard to reprogramming within the JMIP by the Secretary of Defense.

However, the DCI's actual authority to manage the NFIP budget continues to be limited substantially by his lack of authority to be involved in the execution of that budget after it is approved by Congress. In addition, Section 104 (d)(2) of the National Security Act, which was added by the FY 1992 Intelligence Authorization Act, limits the DCI's ability to move funds or personnel within the

NFIP to situations where the transfer is to an activity that is a higher priority intelligence activity, is based on unforeseen requirements, is not to the CIA Reserve for Contingencies or from the Federal Bureau of Investigation, and the head of the entity that contains the affected element or elements does not object. Section 105 of the FY 2001 Intelligence Authorization Act provides that only the head of an agency has authority to object to a transfer of funds within the National Foreign Intelligence Program, except that the Deputy Secretary of Defense may object for DoD agencies and the DCI's authority to transfer funds may be delegated to the Deputy Director of Central Intelligence for Community Management.

Other Authorities Affecting the Secretary of Defense-DCI Relationship Regarding the NRO. The NRO is a member of the "Intelligence Community" as that term is defined in the National Security Act and Executive Order 12333. Section 105 of the National Security Act includes the NRO—along with NSA, NIMA, and DIA—among the entities that the Secretary of Defense is responsible for drawing upon to accomplish the NFIP. Under that Section, the Secretary is required to act through the NRO to ensure, consistent with the statutory responsibilities and authorities of the DCI, "the continued operation of an effective unified organization for the research and development, acquisition, and operation of overhead reconnaissance systems necessary to satisfy all elements of the intelligence community." Also, under Section 106, the Secretary is required to seek DCI concurrence in the recommendation to the President of an NRO Director and to advise the President if the DCI does not concur.

The Act also provides that the DCI is to consult with the Secretary of Defense and the Chairman of the Joints Chiefs of Staff in the development of an annual evaluation of the performance and responsiveness of the NRO, DIA, and NIMA in meeting their na-

tional missions. This Report is to be submitted to the National Security Council's Committee on Foreign Intelligence, which was also created by the 1997 amendments to the National Security Act, and to the Intelligence, Appropriations and Armed Services Committees of Congress.

As explained earlier, Executive Order 12333, "United States Intelligence Activities," was promulgated in 1981, prior to the 1992 public acknowledgment of the NRO's existence and the 1997 FY 1997 Intelligence Authorization Act amendments. The Order provides that the Secretary of Defense will direct, operate, control and provide fiscal management for, among other things, national reconnaissance entities. It also alludes to the NRO euphemistically in the category of "Offices for the collection of specialized intelligence through reconnaissance programs" in a section entitled "Intelligence Components Utilized by the Secretary of Defense." According to the Executive Order, such offices are responsible for carrying out consolidated reconnaissance programs, responding to tasking in accordance with procedures established by the DCI and delegating authority to other departments and agencies for research, development, procurement, and operations of designated means of collection.

The transition of the relationship regarding the NRO from a hierarchical one in 1961 to 1976 to a consensus-based relationship since 1976 probably was inevitable considering the general turbulence in the Intelligence Community during the 1970s and the increasing Congressional oversight of the NRP since 1976. There was considerably less stress on the relationship during periods of generally higher Intelligence Community and DoD funding, although this also was probably due to the close personal relationship between the Secretary of Defense and DCI during the same periods.

There has been no direct White House role in NRO activities since the President's Science Advisor was removed from the process in the 1970s. Some White House Science Advisors are no longer as well versed in national security issues as was formerly the case. In the absence of such focused expertise and interest, NRO issues have tended to be relegated to the lower working levels of the NSC. The Commission heard testimony that, because the President's interest in the NRO cannot be presumed, the Secretary of Defense and DCI have even more reason to attend to their relationship concerning the NRO.

No matter what form the Secretary of Defense-DCI relationship regarding the NRO should take, it is not self-executing and requires the active participation of both in order to best effect the basic mission of the NRO. This basic point was made again and again to the Commission by past and present senior officials. Because the work of the NRO continues even during periods of Secretary of Defense or DCI lack of interest or participation in the relationship, the result is that successively lower levels of officials may be left to "manage" the NRO on behalf of the two principals. Friction among the NRO and other agencies has developed in such periods. Two former senior officials who served in different Administrations, strongly believed that the NRO should be the subject of at least a weekly discussion between the Secretary of Defense and the DCI.



APPENDIX E

PIONEERS IN SPACE RECONNAISSANCE: A BRIEF HISTORY OF THE NRO

Americans have found themselves captivated by adventure novels like Tom Clancy's "Patriot Games" that come to life on the big screen. The scenes depicting the use of U.S. spy satellites

It was during the Cold War period of pioneering technological achievements in space reconnaissance that the NRO emerged and enjoyed the greatest levels of recognition and support for its programs at the highest levels of the U.S. Government...."

add to the intrigue. We are mesmerized as a spy satellite transmits what appears to be real-

time video of a night assault by U.S. Special Operations Forces on a terrorist camp located in the Sahara Desert. The satellite images vividly depict the assault force in action and terrorists dropping to the ground from close-range gunfire. They convey a sense of CNN-like coverage of breaking news.

The capabilities of these "movie satellites" (not constrained by the laws of physics) are the result of computer-simulated graphics and skillful special effects. Nonetheless, the premise for such capabilities is the spectacular technological achievements in satellite reconnaissance pioneered by the National Reconnaissance Office (NRO).

The NRO emerged at the height of the Cold War. During that time in U.S. history, the nation faced the threat of destruction from a nuclear attack. The Soviet Union's nuclear weapons and closed

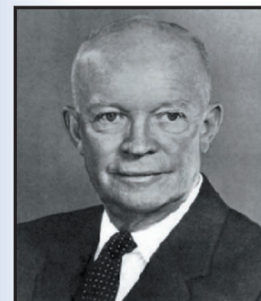
Communist society were the dominant threat to U.S. national security. Weekly civil defense drills and backyard bomb shelters instilled a real sense of “clear and present danger” to the American public.

The lack of insight into the Soviet Union during the early days of the Cold War and the fear of its nuclear arsenal were the focus of national attention. Tensions between the United States and the Soviet Union were high. Ambiguous and conflicting information from traditional intelligence sources concerning the extent of Soviet nuclear capabilities threatened to fuel the nuclear arms race. The risk of nuclear war led the U.S. Air Force to consider building as many as 10,000 ICBMs to counter the perceived threat. The Strategic Air Command flew around-the-clock airborne alert missions with B-52 bombers armed with nuclear warheads in order to deter the USSR from launching a preemptive nuclear strike on the United States.

In an effort to gain timely and more accurate information concerning Soviet capabilities, President Eisenhower initiated a covert program to develop an overhead reconnaissance capability to gather intelligence on the development, capabilities, location, and readiness of Soviet strategic nuclear forces. Advanced technology elements of the CIA and the Air Force were joined together to attack this problem. They rapidly developed the U-2 reconnaissance aircraft, which was able to penetrate Soviet airspace at higher altitudes than those at which Soviet fighters could then operate.

Great technical advances do not come without trial...and some errors

“Let’s not worry about the failures. Let’s stay with it. It is so important and we need it. We need to just keep going with it.”



President Eisenhower

However, in their four years of operation, the U-2s were able to cover only one-tenth of the 10 million square miles of the USSR and provide only limited insight into Soviet strategic nuclear capabilities. Further, these flights were ended on May 1, 1960 after a U-2 piloted by Francis Gary Powers was shot down by a Soviet surface-to-air missile. Powers was captured and the Soviets turned the incident into a major propaganda event. As a result, the need for a satellite reconnaissance capability to provide assured access over denied Soviet territory became paramount to U.S. national security.

The Air Force and CIA had been working on covert reconnaissance capabilities from space for some time. This was a high-risk effort and the program suffered a dozen failed missions before achieving its first success in August 1960.

The then-covert program, named Corona, finally yielded results that were considered spectacular at the time. The amount of Soviet territory covered in the film recovered from the very first Corona mission, for example, exceeded the area that had been covered previously by all the U-2 flights.

The information collected by Corona provided U.S. military planners and policy-makers with concrete evidence that the Soviet Union did not have overwhelming strategic superiority as had been feared. Subsequently, knowledge of the size and characteristics of Soviet nuclear forces made verification of arms control treaties possible and enabled the firm U.S. response to Soviet military expansion in the 1980s that eventually induced the USSR to collapse.

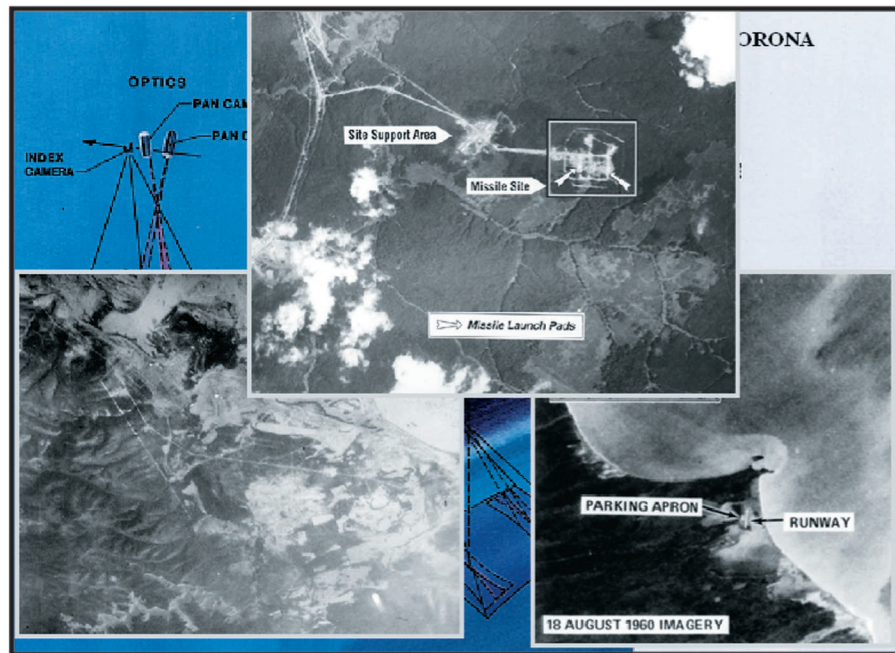
Like the Air Force in its efforts to collect imagery, the Navy and Air Force had tried to gather electronic radar signals intelligence (ELINT) by conducting aircraft flights along the periphery of the USSR, but these efforts could never provide more than a fraction

of the required intelligence. As a result, the Navy in 1958 proposed an ELINT satellite. The proposal was supported by the Department of Defense and CIA, and was approved by President Eisenhower in 1959. The Naval Research Laboratory developed the satellite under the cover of an experimental

solar radiation research satellite called GRAB (Galactic Radiation and Background). The first launch in June 1960 succeeded in orbiting a GRAB satellite. Like Corona, however, many early GRAB missions were unsuccessful and four of the next five missions failed. The program nevertheless continued.

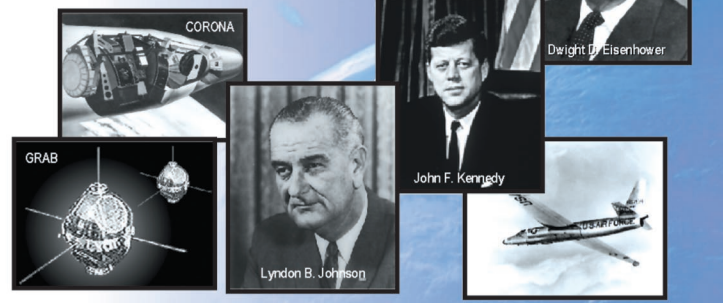
The data provided by the successful GRAB missions were priceless. The ELINT was used to develop operational plans for retaliatory strikes against the Soviet Union in the event of war. The National Security Agency analyzed and catalogued the data, determining from it, for example, that the Soviets were operating a radar in support of an anti-ballistic missile capability as early as the early 1960s. Navy programs were incorporated into NRO in 1962. GRAB was succeeded by other NRO satellite collectors of signals intelligence that have operated ever since.

Looking Behind The Iron Curtain



Pioneering and Persevering (1960-1969)

- Success against immense odds
- Penetrating denied areas without confrontation
- Reducing uncertainty through reliable, unbiased evidence
- Improving America's national security options, force structure and international leadership



A more recent example of the NRO's contribution to U.S. national security is the electro-optical imagery satellite program. The Corona photographic satellite system had limitations. The duration of missions was limited by the amount

of film that could be carried on board, and the images obtained were not available to users for days or weeks after they were taken since all film had to be expended and the film capsule recovered before it could be processed.

NRO engineers addressed these challenges. They were able to develop an electronic "eye" that was able to convert light waves into electrical signals that could be relayed to Earth in near-real time. This and other technologies necessary electro-optical satellite system developed by the NRO have found their way into commercial and individual uses, including commercial electro-optical imagery satellites.

The NRO's real-time imagery satellite program was a lengthy effort. It was costly and often the subject of intense budgetary debate. Fortunately, influential individuals like Deputy Secretary of Defense David Packard, a founder of the Hewlett-Packard Corporation and an electrical engineer, were able to understand the program's technical feasibility and value and lent it their full support.

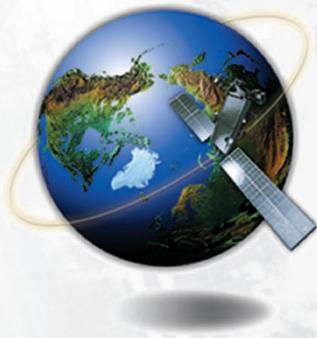
The first electro-optical satellite reconnaissance system—the name of which is still classified—was deployed by the NRO in 1976. The electro-optical imagery satellite system was declared operational by President Jimmy Carter on his first day in office, January 20, 1977.

Those satellites, and their improved successors, have enabled the United States to base its national security strategy on facts rather than fear and on empirical evidence rather than speculation. As President Lyndon B. Johnson said, commenting in March 1967 on the value of the NRO's photo-reconnaissance satellites:

...we've spent thirty-five or forty billion dollars on the space program. And if nothing else had come out of it except the knowledge we've gained from space photography, it would be worth ten times what the whole program cost. Because tonight we know how many missiles the enemy has and, it turned out, our guesses were way off. We were doing things we didn't need to do. We were building things we didn't need to build. We were harboring fears we didn't need to harbor.

It was during this Cold War period of pioneering technological achievements in space reconnaissance that the NRO enjoyed the greatest levels of recognition and support for its programs at the highest levels of the U.S. Government. The technologies pioneered and developed by the NRO forty years ago were just as amazing in their day as the simulated technological capabilities portrayed in the cinema today.

Armed with intelligence provided by NRO, the United States was able to out last Soviet power and now is able to lead the world into a new century which hopefully will be less violent and destructive than the last.



APPENDIX F

NRO ACQUISITION STRENGTHS

Background

The statute that established the Commission directed, among other tasks, a review of NRO roles and missions. One of the foremost of NRO's roles and missions is research, development and acquisition (RD&A) of satellites. As part of its work, the Commission conducted a study to better understand these issues by drawing comparisons between the NRO and other U.S. Government organizations that conduct RD&A of satellites¹: the U.S. Air Force and NASA. The Commission's study posed three questions:

- What are the NRO's strengths, if any, relative to the Air Force and NASA?
- What are the sources of those strengths?
- What is changing with respect to those sources?

The answers to these questions are closely related to the other Commission findings and judgments included in the Commission Report. In particular, the NRO's strengths as a builder of satellites are highly relevant to issues involving the scope of the NRO mission and the extent to which the NRO should be involved in developing technology solutions for tasking, processing, exploitation, and dissemination. NRO strengths and the sources of those

¹ One of the assumptions made in the study was that the most worthwhile comparison was between satellites and satellites, rather than between satellites and other complex systems, such as aircraft.

strengths are also pertinent to the question of how best to prepare NRO for the future, as discussed starting on page 35 of the Report.

In this Report, the Commission determined that actions must be taken to enable the NRO to engage in the most advanced RD&A efforts so that it will be able to place the most advanced reconnaissance satellites in orbit. This finding is partly based on a study finding that the NRO has excelled in engineering creativity and has consistently sought and delivered high performance in its satellites.

The study took account of all major NRO programs since the 1960's, encompassing imagery intelligence (IMINT), signals intelligence (SIGINT), and communications satellites. The analysis also examined Air Force programs since the 1960's, comprising satellite programs for weather, infrared missile warning, navigation (Global Positioning System), and military communications. Commission analysts initially examined a subset of NASA programs, limited to unmanned, earth-orbiting satellites, also going back to the 1960's.

NRO, Air Force and NASA programs were compared in terms of cost, schedule and performance, including factors such as complexity of the satellite systems and the extent of technological innovation. The data to support a comparison of NRO with Air Force and NASA were limited largely because of inconsistent methods for tracking and retaining information within the three organizations.

It was recognized early on in the analysis that any comparison would be subject to several significant caveats and qualifications. Chief among these was that NRO, Air Force and NASA satellite RD&A efforts might not be subject to comparison because of the wide differences between the missions of the three organizations.

The differences between, for example, Air Force navigation satellites, NRO imagery satellites, and NASA weather satellites might be so fundamental that RD&A comparisons would not be feasible. Nonetheless, historically some have judged the NRO as being “better” than the others. The Packard Commission on DoD acquisition reform completed in the mid-1980’s is one of the most notable examples. In any case, the Commission found it useful instead to pursue the comparison in order to determine and identify NRO strengths.

Key Findings

Cost, Schedule and Performance. The point of departure for the study was to compare NRO, Air Force and NASA RD&A efforts for cost, schedule and system performance efforts, the traditional measures of RD&A performance. In this regard, the Commission study resulted in three basic finding:

- First, with a few exceptions (the Air Force’s communications satellites MILSTAR I and II), NRO satellites cost significantly more than Air Force satellites.
- Second, it requires about the same number of years to research, design and build NRO and Air Force satellites. Whether RD&A time for the satellite is measured from initial contract award or concept initiation, both NRO and Air Force have similar durations for satellite RD&A, as shown in Figure 1.
- Finally, the analysis determined that the NRO has developed satellites that are consistently more complex than Air Force satellites.

With regard to this last point, the finding was derived from the study’s effort to compare the NRO to Air Force for system performance, inasmuch as system performance is one of the

dimensions of an organization's overall acquisition performance. However, there is no comprehensive measure of satellite performance that allows comparison between satellites built to accomplish widely different missions.

To remedy this, the Commission used a proxy measure for performance: satellite complexity. The unclassified results for the relative complexity of (a subset of) NRO, Air Force and NASA satellites are shown in Figure 2.

Thus, while NRO and Air Force satellites take comparable times to develop, NRO satellites are both more costly and more complex. By themselves, however, these findings do not answer the question

Figure 1: NRO, Air Force, and NASA Satellite Development Times

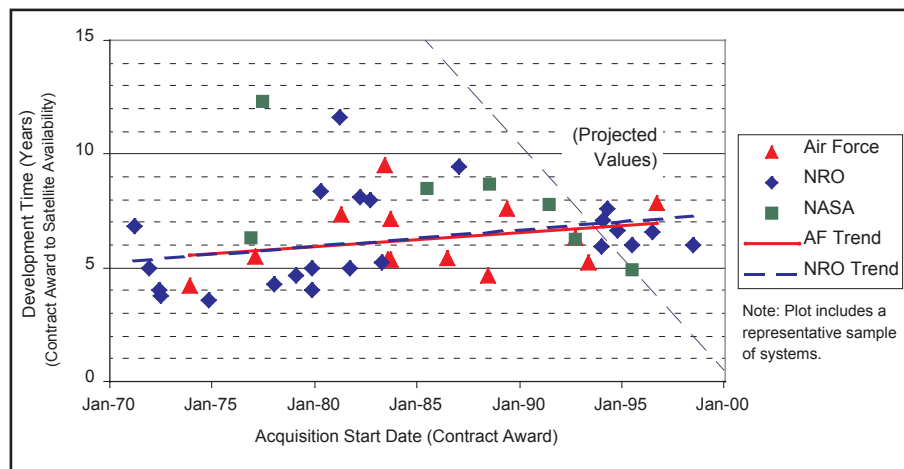
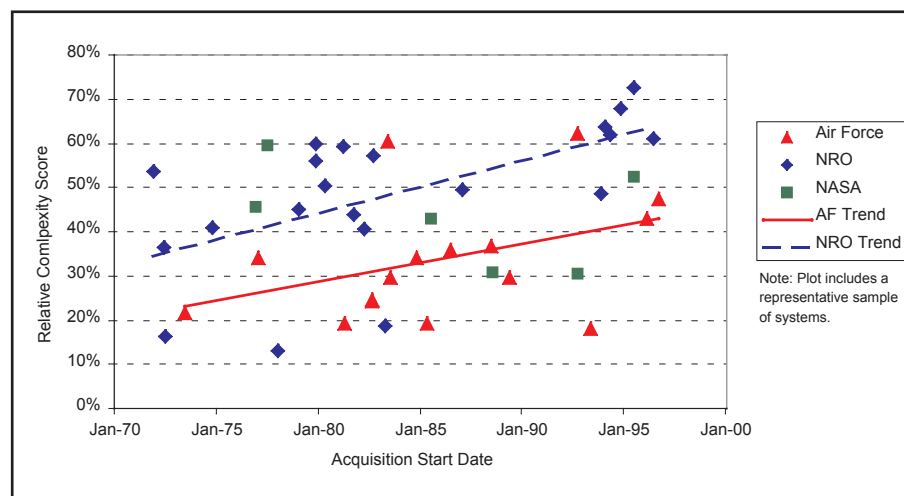


Figure 2: Relative Complexity of NRO, Air Force, and NASA Satellites.



¹ The study adapted a quantitative methodology for scoring satellite complexity which was developed by the Aerospace Corporation. The methodology was originally developed to examine NASA acquisition of "Faster, Better, Cheaper" satellites. The Commission's study adapted the methodology to better apply to NRO and Air Force satellites. Using the adapted methodology, Commission analysts determined satellite complexity based on twenty-five technical parameters such as pointing accuracy, solar array area, and maximum linear dimension.

concerning NRO's strengths. In particular, why has the NRO developed more complex satellites?

Factors relating to greater NRO complexity. In examining factors that might account for the greater complexity of NRO satellites, the study focused on pressures from external stakeholders, funding differences, and differences in organization. Using historical data, the study found that, relative to the Air Force, the NRO has been subject to more pressure from the U.S. national security and intelligence communities to develop new satellites. Much of this pressure was related to the imperative to collect intelligence about Soviet weapons developments where satellite-derived IMINT and SIGINT represented the best or, in some cases, the only option for the United States. In contrast, although the Air Force was subject to pressures in the 1960s for new systems and subsequent influences to improve its satellites, the pressures were less than those placed on the NRO.

A further factor in the greater complexity of NRO satellites is differences in funding levels. By examining appropriated funds since 1967, Commission analysts found the NRO has been consistently funded at levels significantly greater than the Air Force for development and operation of satellites and their related ground systems. More funding provides greater opportunities for more research, leading in turn to more complex developments.

Finally, based largely on its historical classified status, the NRO was able to create and maintain certain organizational features that contributed to innovation. The NRO, unlike the Air Force, was able to organize the conduct of both RD&A within the same organization, in a cohesive way.

In addition, the historically classified status of the NRO allowed it a great measure of discretion in using appropriated funds because they were contained in relatively few accounts. The NRO

was also relatively insulated from the type of yearly budget turbulence encountered by the Air Force across its many space and non-space programs.

Thus, the greater complexity of NRO satellites can be traced to: greater external pressure for performance improvements (in new systems); a much higher and consistent level of funding; and a more cohesive and insulated approach to RD&A. It is worth noting that all three of these factors supporting satellite complexity derive from the NRO mission to build and operate classified satellite reconnaissance systems.

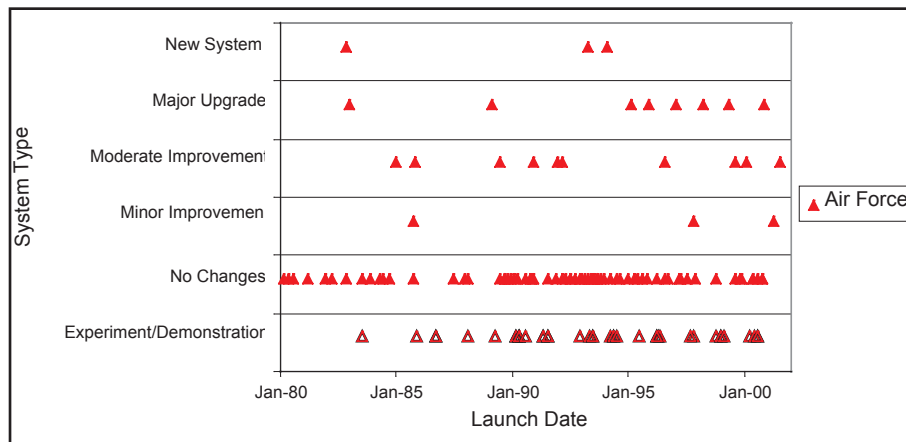
Additional factors characterizing the NRO's Approach.

With a better understanding of the sources of NRO satellite complexity, the Commission analysis sought deeper insight into how the NRO and the Air Force approaches differed. To this end, NRO and Air Force program offices provided data regarding whether their satellites were new systems, major upgrades, moderate improvements, minor improvements, unchanged (clones), or experiments or demonstrations. The Air Force satellites in this comparison are shown in Figure 3. While the NRO part of this comparison is classified, it can be stated that the NRO satellites populate the upper third of the Figure to a much greater extent than the Air Force satellites. The review indicated that the NRO has undertaken more new systems and more major upgrades, and the Air Force has pursued more moderate or minor upgrades or clones.

In addition to initiating more new starts and major and moderate upgrades to satellites than the Air Force, the NRO has had more distinct variants of systems since the 1960s.

To understand these data, analysts examined the sources of requirements for satellite development. One finding, previously stated, was that the NRO has had more pressure from external

Figure 3: Characterization of Air Force Satellites Launched Since 1980



users for *new* systems. However, when looking at the sources or requirements for *upgrades*, the study found less evidence for pressures from users. Based on interview data, analysts found that the ori-

gin of upgrades to NRO satellite performance was not based on approved user requirements as much as on NRO engineers pursuing, with industry, the “art of the possible” in technology based on broadly defined Intelligence Community problems. This “enabled creativity” of the NRO-industry partnership provided the engine for NRO’s high tempo of major and moderate upgrades to systems, resulting in a series of successive, incremental—though often significant—improvements in performance.

In contrast, the Air Force had to operate within original requirements for systems, and introduced new systems and upgrades within a more rigid framework of approved user requirements and carefully controlled funds appropriated for very specific purposes.

Another relevant factor was the extent to which the NRO and Air Force were able to take advantage of technological heritage, i.e., useful technology from prior systems, in RD&A of new systems and upgrades.

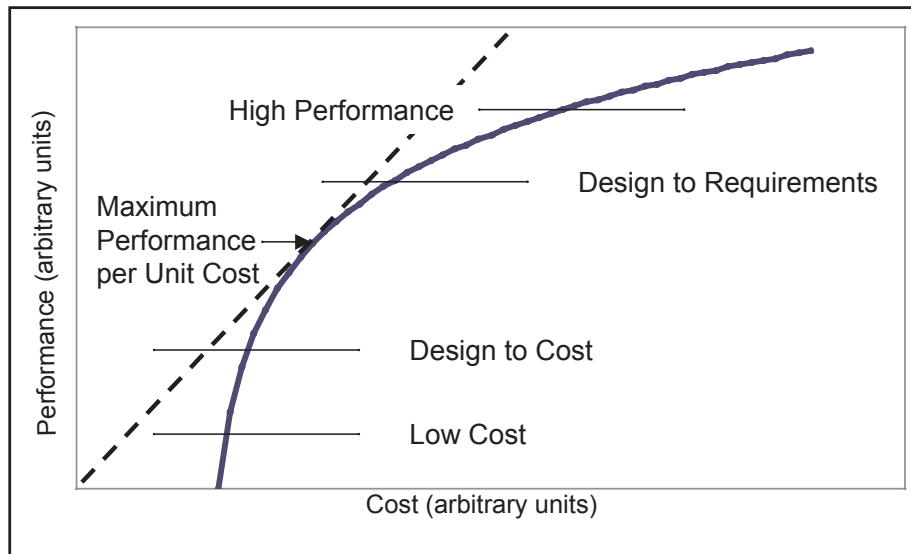
Air Force satellite programs have had a high degree of heritage, with many clones and incremental improvements. The first new, low-heritage Air Force system in decades, MILSTAR I and II, was more costly than expected. The NRO has introduced a larger

number of new, low heritage systems, with many successes and a few programs with overruns and schedule slippages. However, most NRO systems and new systems or upgrades have tended to take advantage of a moderate to high degree of heritage from previous systems. This does not mean that these NRO systems were inexpensive. Rather, NRO's approach to RD&A often benefited from a moderate to high heritage with prior systems and significant funding for upgrades.

NRO's "comparative advantage." The study found that part of the "comparative advantage" of the NRO relative to the Air Force is that the NRO has been able to pursue "technological depth" within a relatively focused, space reconnaissance-related set of problems, with high heritage for many important initiatives. The NRO relatively narrow focus allowed it to pursue technological solutions in depth. High levels of funding, an ability to transfer money quickly between programs and a cohesive approach to RD&A, provided the NRO the flexibility to produce more complex systems.

NRO's high performance approach. The NRO and the Air Force have generally taken different approaches to trading cost versus performance, with NRO taking what can be termed "the performance over cost approach." In terms of the notional trade-offs between performance and cost, shown in Figure 4, small increments in performance come at significantly more cost, shown at the right end of the curve. When plotted on a similar chart, NRO satellites typically demonstrate "a high performance approach" and Air Force satellites demonstrate the "design to requirements" approach.

The NRO's focus on high performance is reflected in higher satellite development costs and in the fact that it has made continuous efforts to improve intelligence collection systems. The NRO approach has resulted in advances in the state of the art, both in terms of the targets of intelligence collection, and in terms of

Figure 4: Cost and Performance Options

higher performance spacecraft. The NRO emphasis on performance was recently cited in a public remark by the Director of the NRO: “We have an outstanding record of delivering capability better than we were asked to do. In the past, NRO

program managers were told to err on the side of best performance, rather than cost or schedule.”

Additional Findings

Complementing the key findings described above, the study produced additional findings that also bear on the question of the strengths of the NRO.

- First, the basic finding about the greater complexity and “enabled creativity” of the NRO does not imply that Air Force programs are mundane while NRO programs are advanced. Rather, satellite-related RD&A, whether Air Force, NRO or NASA, is always difficult. As already seen, NRO and Air Force satellite development times are comparable, despite more streamlined NRO decision processes. Even with high levels of heritage, it is difficult to ensure that systems engineering of each component and sub-system keeps pace, and that overall systems integration is also proceeding apace. In a few cases, NRO, Air Force and NASA have

suffered cost overruns and schedule slippages. Moreover, whether the acquiring organization is NRO, the Air Force, or NASA, the same set of industry partners is involved, and they seem to encounter similar kinds of problems regardless of the acquisition agency.

- Second, the study also examined the investment of the NRO, Air Force and NASA in basic technologies with spacecraft applications. Because of limitations in the data, the study was unable to construct a detailed chronology for each technology investment to determine which organization had the leading role for each technological innovation. However, the list of technologies developed by each organization was impressive and innovative. Based on interview data, there was also evidence of significant cooperation between the three organizations at different times for some new technologies. There was no conclusive evidence that the NRO was alone in terms of setting the standard for space systems innovation.

While there is some evidence that NRO and Air Force satellites have comparable costs per pound, the heaviest satellites have been developed by NRO.

Analytical Judgments

Different organizational approaches to RD&A . The NRO, the Air Force and NASA have highly different approaches to satellite RD&A. The NRO historically has built “niche” satellites that have relatively specialized missions and users. Further, the NRO has historically been under more external pressure for new system performance. Moreover, it has had a relatively narrow mission focus—IMINT, SIGINT and supporting communications—and very high technology content. The NRO “paradigm” has been a quest for high performance, in response to intelligence needs,

with frequent new starts and continual improvements to existing systems.

In contrast, the Air Force's systems are designed for a wider user base. The Air Force's satellite RD&A activities programs are highly diverse in terms of different satellite missions. Further, its satellite design and performance specifications are more highly tied to formal, approved user requirements. In addition, the Air Force preference is to stabilize design rapidly and move to more serial production, rather than adding improvements for each successive vehicle of a satellite generation.

Contrasting to both the NRO and the Air Force, the NASA approach to satellite and spacecraft development maybe best described as "let a thousand flowers bloom" within a budget historically that has been larger than that for NRO and Air Force space programs combined. NASA programs are extremely diverse, more so than those of the Air Force. NASA programs have very high technology content, like the NRO. With the exception of weather satellites, NASA satellites and spacecraft are virtually all "one-of-a-kind" or "few of a kind," requiring extensive R&D. Overall, the engineering creativity and quest for performance demonstrated in NRO programs applies equally well to many NASA programs.

NRO strengths. The NRO has certain strengths:

- The NRO conducts R&D on and builds highly complex, classified satellites, with a continuous quest and funding for performance improvements
- Part of the NRO approach has been the ability to undertake new start satellite projects successfully, both with and without a high degree of prior heritage.

Sources of NRO strengths. The Commission study found four sources for the NRO's strengths:

- the NRO has had significant freedom of maneuver within a relatively narrow set of missions, allowing development of “technological depth.”
- the NRO has benefited from an experienced and long-duration career work force that allowed it to pursue the “art of the possible” with industry and users;
- the NRO has benefited from relatively insulated, highly discretionary and flexible funding to allow pursuit of “technological depth,” and
- while NRO acquisition authorities and streamlined practices did not result in shorter development times, they probably did allow some cost reduction, closer relationships with industry and a high level of performance upgrades.

Changes in sources of NRO success. An additional judgment is that some of the conditions that produced historical NRO success relative to the Air Force are undergoing change. The NRO mission is increasingly wide and the NRO is increasingly tied to wider requirements processes. There has been a shift away from NRO ability to maintain an experienced, long-duration work force. In addition, while NRO acquisition authorities remain unchanged, there has been an erosion in some key features of the NRO approach to RD&A: NRO funding is less insulated and it has less flexibility in use of appropriated funds.

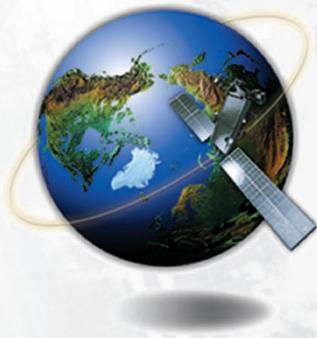
Conclusion

The Commission reached three main conclusions: First, the NRO, Air Force and NASA have distinct “organizational cultures” and approaches to satellite RD&A. There is little basis to conclude that one is better than another. The approaches of each are well

suited to their differing missions, and the performance of each has generally satisfied the different user communities.

Second, relative to the Air Force and NASA, the NRO has some distinct strengths, but there is a balance between strengths and weaknesses. Relative to the Air Force, the NRO has been able to produce more complex satellites, in comparable time, and at comparable costs per pound. In some cases, NRO system upgrades may be less directly tied to approved user requirements, and users have only come to value NRO improvements after the satellite is in operation.

Finally, as noted elsewhere in this Commission Report, some of the key sources of NRO successes have evolved in a way that puts some features of the NRO approach at risk. In particular, the NRO has had great successes in developing innovative, “niche” systems, whereas there are greater pressures today for it to focus much more on standardized systems with a very wide customer bases.



APPENDIX G

COMMISSION MEMBER BIOGRAPHIES

Congressman Porter J. Goss, Co-Chairman

Porter J. Goss (R-FL) was re-appointed by the Speaker of the House to chair the House Permanent Select Committee on Intelligence (HPSCI) for the 106th Congress. This is his second term as chairman of the Committee, on which he is now serving his third term as a member. Mr. Goss has represented Southwest Florida's 14th Congressional District since 1989. In addition to chairing the HPSCI, Mr. Goss also chairs the House Rules Committee Subcommittee on Legislative and Budget Process.

A former Central Intelligence Agency Clandestine Services Officer, Mr. Goss has translated his professional experience and long-standing interest in foreign policy into legislative initiatives to further the advancement of democracy in Haiti, Nicaragua, Panama and El Salvador. He is also a member of the North Atlantic Assembly's inter-parliamentary organization and an active proponent of efforts to curtail the flow of illegal drugs into the United States. He has actively participated in strategic deliberations regarding U.S. foreign policy towards Iraq, North Korea and Russia.

As Chairman of the HPSCI, Mr. Goss has led the effort to revitalize the nation's intelligence capabilities to better meet the challenges of the next century, particularly those involving such transnational threats as weapons proliferation, narcotics trafficking and terrorism. He has been a leading voice in the call to strengthen our human intelligence and analytical capabilities, even as we

continue to invest in the best possible technology for intelligence collection.

Senator J. Robert Kerrey, Co-Chairman

Senator Bob Kerrey is a former Governor of Nebraska, a member of the Senate Finance Committee, the Senate Agriculture Committee and recently finished serving as Vice Chairman of the Senate Select Committee on Intelligence (SSCI). He served on the Senate Appropriations Committee from 1989 through 1996. Mr. Kerrey first won election to the Senate in 1988 and was re-elected in 1994.

Born in Lincoln, Nebraska, Mr. Kerrey attended Lincoln Public Schools and graduated from the University of Nebraska at Lincoln in 1966. He then earned a spot in the elite Navy SEALs and saw combat in Vietnam. He earned the Congressional Medal of Honor, America's highest military honor, and is currently the only member of Congress who has received this honor. Returning from the war and starting from scratch in 1972, Mr. Kerrey built a chain of highly successful restaurants and health clubs that now employ more than 900 people.

Upon taking office as Governor in 1982, Mr. Kerrey balanced the state's budget in each of his four years in office. He also turned the existing deficit into a seven percent surplus upon leaving office in 1987. In addition, Mr. Kerrey initiated programs for welfare reform, education, job training and environmental protection that have become models for the nation.

Senator Wayne Allard

U.S. Senator Wayne Allard is a Colorado veterinarian who served in the U.S. House of Representatives from Colorado's Fourth Congressional District from 1991 to 1996 before being

elected to the United States Senate in 1996. As a Colorado Congressman, Mr. Allard served on the Joint Committee on Congressional Reform.

Mr. Allard is a member of the Senate Armed Services Committee where he is Chairman of the Strategic Subcommittee; the Senate Banking, Housing and Urban Affairs Committee where he is Chairman of the Housing and Transportation Subcommittee; and the Senate Select Committee on Intelligence.

Mr. Allard was born in Fort Collins, Colorado in 1943 and raised on a ranch near Walden, Colorado. He received his doctorate of Veterinary Medicine from Colorado State University in 1968.

Congressman Anthony C. Beilenson

Anthony C. Beilenson is a former U.S. Congressman from California's 24th Congressional District; he served in the U.S. House of Representatives from 1977 to 1997 and as Chairman of the House Permanent Select Committee for Intelligence (HPSCI) from 1989 to 1991. Prior to his election to Congress, Mr. Beilenson served in the California Assembly from 1963 to 1967 and in the California State Senate from 1967 to 1977. He is a graduate of Harvard University and Harvard Law School.

Larry D. Cox

Mr. Cox is President of the SYGENEX Corporation, a new spin-off of ORINCON Industries. Since 1997, Mr. Cox was Vice President and Founder/Director of Special Programs at the ORINCON Corporation, a leading small-business supplier of advanced technology products and services to government and commercial customers.

Mr. Cox was recruited into NSA in 1972. He worked in the Directorate of Operations in the United States and overseas until

1983. From 1983 to 1991 Mr. Cox was a Chief Scientist and Program Manager in Space and Ground Systems at the General Electric Company in Valley Forge, PA.

From 1991 to 1995, Mr. Cox served as a Professional Staff member of the Subcommittee on Program and Budget Authorization of the House Permanent Select Committee on Intelligence (HPSCI), where he had oversight responsibility for space, advance technology, communications and remote-sensing programs.

From 1995 to 1997 Mr. Cox was Division Vice President at the Sarnoff Labs. As one of the Director's External Team, Mr. Cox performed an internal audit of NSA in 1999.

Mr. Cox is a sometimes technical advisor to the film industry.

Joan Avalyn Dempsey

Joan Dempsey was confirmed as Deputy Director of Central Intelligence for Community Management by the U.S. Senate on May 22, 1998. This position was established in the 1997 Intelligence Authorization Act. Previously, Ms. Dempsey served as Chief of Staff for Director of Central Intelligence George Tenet beginning in July 1997.

Prior to joining the DCI staff, Ms. Dempsey served as Deputy Assistant Secretary of Defense for Intelligence and Security and Acting Assistant Secretary of Defense for Command, Control, Communications and Intelligence. She served, as well, as the Director of the National Military Intelligence Production Center, Director of the Military Intelligence Staff, and Deputy Director of the General Defense Intelligence Program Staff. She entered federal employment as a Presidential Management Intern in 1983.

Congressman Norm Dicks

Norm Dicks, a native of Bremerton, Washington, was first elected to Congress in November 1976 and has been re-elected in every election since that time. Educated in Bremerton area elementary and secondary schools, Rep. Dicks graduated from the University of Washington School of Law in 1968. Later that year, he joined the staff of Senator Warren G. Magnuson where he served as Legislative Assistant and later as Administrative Assistant.

During the 1980's, Rep. Dicks was appointed to serve as an official observer to the US-Soviet arms reduction talks. In 1990, he was appointed to the House Permanent Select Committee on Intelligence (HPSCI). From 1995 through 1998, he served as the ranking Democratic Member of the HPSCI, and in 1998 was named the Ranking Democrat on a special Select Committee investigating technology transfer to China. Rep. Dicks was awarded the CIA Director's Medal upon completion of his service on the HPSCI in late 1998.

Rep. Dicks currently serves on the board of Visitors of the U.S. Air Force Academy and on the Congressional Advisory Council on the Henry M. Jackson Foundation. He is a member of the Washington State Bar and District of Columbia Bar, and is a member of the Council on Foreign Relations. In Washington State, he serves as an honorary member of Rotary and Kiwanis clubs in his district, and as member of the Puget Sound Naval Bases Association.

Martin C. Faga

Martin Faga is President and Chief Executive Officer of the MITRE Corporation and a member of the MITRE Board of Trustees. He directs the company's activities, primarily the operation of three Federally Funded Research and Development Centers.

Before joining MITRE, Mr. Faga served from 1989 until 1993 as Assistant Secretary of the Air Force for Space, where he was responsible for overall supervision of Air Force space matters with primary emphasis on policy, strategy and planning. At the same time, he served as Director of the National Reconnaissance Office (NRO).

Keith R. Hall

Keith R. Hall was confirmed by the Senate as Assistant Secretary of the Air Force (Space) on March 18, 1997, and was appointed Director of the National Reconnaissance Office (NRO) on March 28, 1997. Before joining the NRO, Mr. Hall served as Executive Director for Intelligence Community Affairs where he was the principal architect and co-chairman of the Intelligence Program Review Process. He also co-chaired the Security Policy Forum and joined the Vice Chairman, Joint Chiefs of Staff, in directing the study group that conceptualized the National Imagery and Mapping Agency. From 1991 to 1995, Mr. Hall served in the Office of the Secretary of Defense as Deputy Assistant Secretary of Defense for Intelligence and Security.

Mr. Hall held several professional staff positions with the Senate Select Committee on Intelligence (SSCI) from 1983 to 1991, including that of Deputy Staff Director. In this capacity, he was primarily responsible for supporting Committee members in the annual budget authorization process involving the Intelligence Community. He also participated in Committee oversight of intelligence programs and the review of intelligence-related legislation.

Lieutenant General

Patrick M. Hughes, U.S. Army (Retired)

Lieutenant General Hughes is President of PMH Enterprises LLC, a private consulting firm specializing in intelligence, security

and international relations. He retired from the U.S. Army on October 1, 1999 after more than 35 years of active duty service. His last assignment was Director, Defense Intelligence Agency (DIA), a position he held for 3.5 years. Other positions of responsibility included Director of Intelligence (J-2), Joint Staff and DIA; Director of Intelligence (J-2), U.S. Central Command; and Commanding General, U.S. Army Intelligence Agency.

His awards and decorations include 3 awards of the Defense Distinguished Service Medal, the Silver Star, 3 awards of the Bronze Star for Valor, the Purple Heart, the Combat Infantryman's Badge, and the Parachute Badge. He is also the recipient of the National Intelligence Distinguished Service Medal. He is the primary author of "A Primer on the Future Threat, the Decades Ahead: 1999 – 2020." Lieutenant General Hughes is a graduate of the School of Advanced Military Studies Two-Year Fellowship Program.

Mr. Eli S. Jacobs

Mr. Eli S. Jacobs is a private investor. He has served as a member of the Defense Policy Board, the General Advisory Committee on Arms Control and Disarmament, the Chief of Naval Operations Executive Panel and on the National Reconnaissance Program Task Force. Mr. Jacobs chaired the Senate Select Committee on Intelligence's (SSCI) Panel on Counterintelligence Policy. Mr. Jacobs is a graduate of Yale University and the Yale Law School.

Dr. William Schneider, Jr.

William Schneider, Jr. is President of International Planning Services, Inc., a Washington based international trade and finance advisory firm, and is an Adjunct Fellow of the Hudson Institute. He was formerly Under Secretary of State for Security

Assistance, Science and Technology (1982 – 1986). Dr. Schneider served as a Member of the “Rumsfeld Commission” (The Commission to Assess the Ballistic Missile Threat to the United States) established by the Congress to review intelligence information on the current and emerging ballistic missile threat to the United States. He currently serves as Chairman of the Department of State’s Defense Trade Advisory Group.

Dr. Schneider is the author of several works on defense policy and has also published numerous articles and monographs on defense and foreign policy, U.S. strategic forces, theater nuclear forces, and unconventional warfare. Dr. Schneider received his Ph.D. degree from New York University in 1968. He is a member of the American Economic Association, the Econometric Society, and the International Institute for Strategic Studies.



APPENDIX H

LEGISLATION AUTHORIZING THE COMMISSION

**The Intelligence Authorization Act for
FY 2000 (Public Law 106-120,
December 3, 2000)**

Title VII—National Commission for the Review of The National Reconnaissance Office

SEC. 701.

Findings

Congress makes the following findings:

- (1) Imagery and signals intelligence satellites are vitally important to the security of the Nation.
- (2) The National Reconnaissance Office (in this title referred to as the “NRO”) and its predecessor organizations have helped protect and defend the United States for more than 30 years.
- (3) The end of the Cold War and the enormous growth in usage of information technology have changed the environment in which the intelligence community must operate. At the same time, the in-

telligence community has undergone significant changes in response to dynamic developments in strategy and in budgetary matters. The acquisition and maintenance of satellite systems are essential to providing timely intelligence to national policymakers and achieving information superiority for military leaders.

(4) There is a need to evaluate the roles and mission, organizational structure, technical skills, contractor relationships, use of commercial imagery, acquisition of launch vehicles, launch services, and launch infrastructure, mission assurance, acquisition authorities, and relationship to other agencies and departments of the Federal Government of the NRO in order to assure continuing success in satellite reconnaissance in the new millennium.

SEC. 702.

**National Commission for the Review of
The National Reconnaissance Office**

(a) Establishment.—There is established a commission to be known as the “National Commission for the Review of the National Reconnaissance Office” (in this title referred to as the “Commission”).

(b) Composition.—The Commission shall be composed of 11 members, as follows:

(1) The Deputy Director of Central Intelligence for Community Management.

(2) Three members appointed by the Majority Leader of the Senate, in consultation with the Chairman of the Select Committee on Intelligence of the Senate, one from Members of the Senate and two from private life.

(3) Two members appointed by the Minority Leader of the Senate, in consultation with the Vice Chairman of the Select

Committee on Intelligence of the Senate, one from Members of the Senate and one from private life.

(4) Three members appointed by the Speaker of the House of Representatives, in consultation with the Chairman of the Permanent Select Committee on Intelligence of the House of Representatives, one from Members of the House of Representatives and two from private life.

(5) Two members appointed by the Minority Leader of the House of Representatives, in consultation with the ranking member of the Permanent Select Committee on Intelligence of the House of Representatives, one from Members of the House of Representatives and one from private life.

The Director of the National Reconnaissance Office shall be an ex officio member of the Commission.

(c) Membership.—

(1) The individuals appointed as members of the Commission shall be individuals who are nationally recognized for expertise, knowledge, or experience in—

(A) technical intelligence collection systems and methods;

(B) research and development programs;

(C) acquisition management;

(D) use of intelligence information by national policymakers and military leaders; or

(E) the implementation, funding, or oversight of the national security policies of the United States.

(2) An official who appoints members of the Commission may not appoint an individual as a member of the Commission if,

in the judgment of the official, such individual possesses any personal or financial interest in the discharge of any of the duties of the Commission.

(3) All members of the Commission appointed from private life shall possess an appropriate security clearance in accordance with applicable laws and regulations concerning the handling of classified information.

(d) Co-Chairs.—

(1) The Commission shall have two co-chairs, selected from among the members of the Commission.

(2) One co-chair of the Commission shall be a member of the Democratic Party, and one co-chair shall be a member of the Republican Party.

(3) The individuals who serve as the co-chairs of the Commission shall be jointly agreed upon by the President, the Majority Leader of the Senate, the Minority Leader of the Senate, and Speaker of the House of Representatives, and the Minority Leader of the House of Representatives.

(e) Appointment; Initial Meeting.—

(1) Members of the Commission shall be appointed not later than 45 days after the date of the enactment of this Act.

(2) The Commission shall hold its initial meeting on the date that is 60 days after the date of the enactment of this Act.

(f) Meetings; Quorum; Vacancies.—

(1) After its initial meeting, the Commission shall meet upon the call of the co-chairs of the Commission.

(2) Six members of the Commission shall constitute a quorum for purposes of conducting business, except that two

members of the Commission shall constitute a quorum for purposes of receiving testimony.

(3) Any vacancy in the Commission shall not affect its powers, but shall be filled in the same manner in which the original appointment was made.

(4) If vacancies in the Commission occur on any day after 45 days after the date of the enactment of this Act, a quorum shall consist of a majority of the members of the Commission as of such day.

(g) Actions of Commission.—

(1) The Commission shall act by resolution agreed to by a majority of the members of the Commission voting and present.

(2) The Commission may establish panels composed of less than the full membership of the Commission for purposes of carrying out the duties of the Commission under this title. The actions of any such panel shall be subject to the review and control of the Commission. Any findings and determinations made by such a panel shall not be considered the findings and determinations of the Commission unless approved by the Commission.

(3) Any member, agent, or staff of the Commission may, if authorized by the co-chairs of the Commission, take any action which the Commission is authorized to take pursuant to this title.

SEC. 703.

Duties of Commission

(a) In General.—The duties of the Commission shall be—

(1) to conduct, until not later than the date on which the Commission submits the report under section 708(a), the review described in subsection (b); and

(2) to submit to the congressional intelligence committees, the Director of Central Intelligence, and the Secretary of Defense a final report on the results of the review.

(b) Review.—The Commission shall review the current organization, practices, and authorities of the NRO, in particular with respect to—

- (1) roles and mission;
- (2) organizational structure;
- (3) technical skills;
- (4) contractor relationships;
- (5) use of commercial imagery;
- (6) acquisition of launch vehicles, launch services, and launch infrastructure, and mission assurance;
- (7) acquisition authorities; and
- (8) relationships with other agencies and departments of the Federal Government.

SEC. 704.

Powers of Commission

(a) In General.—

(1) The Commission or, on the authorization of the Commission, any subcommittee or member thereof, may, for the purpose of carrying out the provisions of this title—

(A) hold such hearings and sit and act at such times and places, take such testimony, receive such evidence, and administer such oaths; and

(B) require, by subpoena or otherwise, the attendance and testimony of such witnesses and the production of such books, records, correspondence, memoranda, papers, and documents, as the Commission or such designated subcommittee or designated member considers necessary.

(2) Subpoenas may be issued under paragraph (1)(B) under the signature of the co-chairs of the Commission, and may be served by any person designated by such co-chairs.

(3) The provisions of sections 102 through 104 of the Revised Statutes of the United States (2 U.S.C. 192-194) shall apply in the case of any failure of a witness to comply with any subpoena or to testify when summoned under authority of this section.

(b) Contracting.—The Commission may, to such extent and in such amounts as are provided in advance in appropriation Acts, enter into contracts to enable the Commission to discharge its duties under this title.

(c) Information from Federal Agencies.—The Commission may secure directly from any executive department, agency, bureau, board, commission, office, independent establishment, or instrumentality of the Government information, suggestions, estimates, and statistics for the purposes of this title. Each such department, agency, bureau, board, commission, office, establishment, or instrumentality shall, to the extent authorized by law, furnish such information, suggestions, estimates, and statistics directly to the Commission, upon request of the co-chairs of the Commission. The Commission shall handle and protect all classified informa-

tion provided to it under this section in accordance with applicable statutes and regulations.

(d) Assistance from Federal Agencies.—

(1) The Director of Central Intelligence shall provide to the Commission, on a non-reimbursable basis, such administrative services, funds, staff, facilities, and other support services as are necessary for the performance of the Commission's duties under this title.

(2) The Secretary of Defense may provide the Commission, on a non-reimbursable basis, with such administrative services, staff, and other support services as the Commission may request.

(3) In addition to the assistance set forth in paragraphs (1) and (2), other departments and agencies of the United States may provide the Commission such services, funds, facilities, staff, and other support as such departments and agencies consider advisable and as may be authorized by law.

(4) The Commission shall receive the full and timely cooperation of any official, department, or agency of the United States Government whose assistance is necessary for the fulfillment of the duties of the Commission under this title, including the provision of full and current briefings and analyses.

(e) Prohibition on Withholding Information.—No department or agency of the Government may withhold information from the Commission on the grounds that providing the information to the Commission would constitute the unauthorized disclosure of classified information or information relating to intelligence sources or methods.

(f) Postal Services.—The Commission may use the United States mails in the same manner and under the same conditions as the departments and agencies of the United States.

(g) Gifts.—The Commission may accept, use, and dispose of gifts or donations of services or property in carrying out its duties under this title.

SEC. 705.

Staff of Commission

(a) In General.—

(1) The co-chairs of the Commission, in accordance with rules agreed upon by the Commission, shall appoint and fix the compensation of a staff director and such other personnel as may be necessary to enable the Commission to carry out its duties, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and without regard to the provisions of chapter 51 and sub-chapter III or chapter 53 of such title relating to classification and General Schedule pay rates, except that no rate of pay fixed under this subsection may exceed the equivalent of that payable to a person occupying a position at level V of the Executive Schedule under section 5316 of such title.

(2) Any Federal Government employee may be detailed to the Commission without reimbursement from the Commission, and such detailee shall retain the rights, status, and privileges of his or her regular employment without interruption.

(3) All staff of the Commission shall possess a security clearance in accordance with applicable laws and regulations concerning the handling of classified information.

(b) Consultant Services.—

(1) The Commission may procure the services of experts and consultants in accordance with section 3109 of title 5, United States Code, but at rates not to exceed the daily rate paid a person occupying a position at level IV of the Executive Schedule under section 5315 of such title.

(2) All experts and consultants employed by the Commission shall possess a security clearance in accordance with applicable laws and regulations concerning the handling of classified information.

SEC. 706.

Compensation and Travel Expenses

(a) Compensation.—

(1) Except as provided in paragraph (2), each member of the Commission may be compensated at not to exceed the daily equivalent of the annual rate of basic pay in effect for a position at level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day during which that member is engaged in the actual performance of the duties of the Commission under this title.

(2) Members of the Commission who are officers or employees of the United States or Members of Congress shall receive no additional pay by reason of their service on the Commission.

(b) Travel Expenses.—While away from their homes or regular places of business in the performance of services for the Commission, members of the Commission may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in the Government

service are allowed expenses under section 5703(b) of title 5, United States Code.

SEC. 707.

Treatment of Information Relating to National Security.

(a) In General.—

(1) The Director of Central Intelligence shall assume responsibility for the handling and disposition of any information related to the national security of the United States that is received, considered, or used by the Commission under this title.

(2) Any information related to the national security of the United States that is provided to the Commission by a congressional intelligence committee may not be further provided or released without the approval of the chairman of such committee.

(b) Access after Termination of Commission.—Notwithstanding any other provision of law, after the termination of the Commission under section 708, only the Members and designated staff of the congressional intelligence committees, the Director of Central Intelligence and the designees of the Director, and such other officials of the executive branch as the President may designate shall have access to information related to the national security of the United States that is received, considered, or used by the Commission.

SEC. 708.

Final Report; Termination

(a) Final Report. Not later than November 1, 2000, the Commission shall submit to the congressional intelligence committees, the Director of Central Intelligence, and the Secretary of Defense a final report as required by section 703(a).

(b) Termination.—

(1) The Commission, and all the authorities of this title, shall terminate at the end of the 120-day period beginning on the date on which the final report under subsection (a) is transmitted to the congressional intelligence committees.

(2) The Commission may use the 120-day period referred to in paragraph (1) for the purposes of concluding its activities, including providing testimony to committees of Congress concerning the final report referred to in that paragraph and disseminating the report.

SEC. 709.

Assessments of Final Report

Not later than 60 days after receipt of the final report under section 708(a), the Director of Central Intelligence and the Secretary of Defense shall each submit to the congressional intelligence committees an assessment by the Director or the Secretary, as the case may be, of the final report. Each assessment shall include such comments on the findings and recommendations contained in the final report as the Director or Secretary, as the case may be, considers appropriate.

SEC. 710.

Inapplicability of Certain Administrative Provisions.

(a) Federal Advisory Committee Act.—The provisions of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the activities of the Commission under this title.

(b) Freedom of Information Act.—The provisions of section 552 of title 5, United States Code (commonly referred to as the Freedom of Information Act), shall not apply to the activities, records, and proceedings of the Commission under this title.

SEC. 711.

Funding

(a) Transfer from NRO.—Of the amounts authorized to be appropriated by this Act for the National Reconnaissance Office, the Director of the National Reconnaissance Office shall transfer to the Director of Central Intelligence \$5,000,000 for purposes of the activities of the Commission under this title.

(b) Availability In General.—The Director of Central Intelligence shall make available to the Commission, from the amount transferred to the Director under subsection (a), such amounts as the Commission may require for purposes of the activities of the Commission under this title.

(c) Duration of Availability.—Amounts made available to the Commission under subsection (b) shall remain available until expended.

SEC. 712.

Congressional Intelligence Committees Defined

In this title, the term “congressional intelligence committees” means the following:

- (1) The Select Committee on Intelligence of the Senate.
- (2) The Permanent Select Committee on Intelligence of the House of Representatives.



APPENDIX I RELEVANT STATUTORY AND EXECUTIVE ORDER PROVISIONS

National Security Act of 1947 (as amended)

Sec. 403-3.

Responsibilities of Director of Central Intelligence

(a) Provision of intelligence.

(1) Under the direction of the National Security Council, the Director of Central Intelligence shall be responsible for providing national intelligence—

(A) to the President;

(B) to the heads of departments and agencies of the executive branch;

(C) to the Chairman of the Joint Chiefs of Staff and senior military commanders; and

(D) where appropriate, to the Senate and House of Representatives and the committees thereof.

(2) Such national intelligence should be timely, objective, independent of political considerations, and based upon all sources available to the intelligence community.

(b) National Intelligence Council.

(1)

(A) There is established within the Office of the Director of Central Intelligence the National Intelligence Council (hereafter in this section referred to as the “Council”). The Council shall be composed of senior analysts within the intelligence community and substantive experts from the public and private sector, who shall be appointed by, report to, and serve at the pleasure of, the Director of Central Intelligence.

(B) The Director shall prescribe appropriate security requirements for personnel appointed from the private sector as a condition of service on the Council, or as contractors of the Council or employees of such contractors, to ensure the protection of intelligence sources and methods while avoiding, wherever possible, unduly intrusive requirements which the Director considers to be unnecessary for this purpose.

(2) The Council shall—

(A) produce national intelligence estimates for the Government, including, whenever the Council considers appropriate, alternative views held by elements of the intelligence community;

(B) evaluate community-wide collection and production of intelligence by the intelligence community and the requirements and resources of such collection and production; and

(C) otherwise assist the Director in carrying out the responsibilities described in subsection (a) of this section.

(3) Within their respective areas of expertise and under the direction of the Director, the members of the Council shall constitute the senior intelligence advisers of the intelligence community for purposes of representing the views of the intelligence community within the Government.

(4) Subject to the direction and control of the Director of Central Intelligence, the Council may carry out its responsibilities under this subsection by contract, including contracts for substantive experts necessary to assist the Council with particular assessments under this subsection.

(5) The Director shall make available to the Council such staff as may be necessary to permit the Council to carry out its responsibilities under this subsection and shall take appropriate measures to ensure that the Council and its staff satisfy the needs of policymaking officials and other consumers of intelligence. The Council shall also be readily accessible to policymaking officials and other appropriate individuals not otherwise associated with the intelligence community.

(6) The heads of elements within the intelligence community shall, as appropriate, furnish such support to the Council, including the preparation of intelligence analyses, as may be required by the Director.

(c) Head of intelligence community. In the Director's capacity as head of the intelligence community, the Director shall—

(1) facilitate the development of an annual budget for intelligence and intelligence-related activities of the United States by—

(A) developing and presenting to the President an annual budget for the National Foreign Intelligence Program; and

(B) participating in the development by the Secretary of Defense of the annual budgets for the Joint Military Intelligence Program and the Tactical Intelligence and Related Activities Program;

(2) establish the requirements and priorities to govern the collection of national intelligence by elements of the intelligence community;

(3) approve collection requirements, determine collection priorities, and resolve conflicts in collection priorities levied on national collection assets, except as otherwise agreed with the Secretary of Defense pursuant to the direction of the President;

(4) promote and evaluate the utility of national intelligence to consumers within the Government;

(5) eliminate waste and unnecessary duplication within the intelligence community;

(6) protect intelligence sources and methods from unauthorized disclosure; and

(7) perform such other functions as the President or the National Security Council may direct.

(d) Head of Central Intelligence Agency. In the Director's capacity as head of the Central Intelligence Agency, the Director shall—

(1) collect intelligence through human sources and by other appropriate means, except that the Agency shall have no police, subpoena, or law enforcement powers or internal security functions;

(2) provide overall direction for the collection of national intelligence through human sources by elements of the intelligence community authorized to undertake such collection

and, in coordination with other agencies of the Government which are authorized to undertake such collection, ensure that the most effective use is made of resources and that the risks to the United States and those involved in such collection are minimized;

(3) correlate and evaluate intelligence related to the national security and provide appropriate dissemination of such intelligence;

(4) perform such additional services as are of common concern to the elements of the intelligence community, which services the Director of Central Intelligence determines can be more efficiently accomplished centrally; and

(5) perform such other functions and duties related to intelligence affecting the national security as the President or the National Security Council may direct.

Sec. 403-4.

Authorities of Director of Central Intelligence

(a) Access to intelligence. To the extent recommended by the National Security Council and approved by the President, the Director of Central Intelligence shall have access to all intelligence related to the national security which is collected by any department, agency, or other entity of the United States.

(b) Approval of budgets. The Director of Central Intelligence shall provide guidance to elements of the intelligence community for the preparation of their annual budgets and shall approve such budgets before their incorporation in the National Foreign Intelligence Program.

(c) Role of DCI in reprogramming. No funds made available under the National Foreign Intelligence Program may be reprogrammed

by any element of the intelligence community without the prior approval of the Director of Central Intelligence except in accordance with procedures issued by the Director. The Secretary of Defense shall consult with the Director of Central Intelligence before reprogramming funds made available under the Joint Military Intelligence Program.

(d) Transfer of funds or personnel within National Foreign Intelligence Program.

(1) In addition to any other authorities available under law for such purposes, the Director of Central Intelligence, with the approval of the Director of the Office of Management and Budget, may transfer funds appropriated for a program within the National Foreign Intelligence Program to another such program and, in accordance with procedures to be developed by the Director and the heads of affected departments and agencies, may transfer personnel authorized for an element of the intelligence community to another such element for periods up to a year.

(2) A transfer of funds or personnel may be made under this subsection only if—

(A) the funds or personnel are being transferred to an activity that is a higher priority intelligence activity;

(B) the need for funds or personnel for such activity is based on unforeseen requirements;

(C) the transfer does not involve a transfer of funds to the Reserve for Contingencies of the Central Intelligence Agency;

(D) the transfer does not involve a transfer of funds or personnel from the Federal Bureau of Investigation; and

(E) the Secretary or head of the department which contains the affected element or elements of the intelligence community does not object to such transfer.

(3) Funds transferred under this subsection shall remain available for the same period as the appropriations account to which transferred.

(4) Any transfer of funds under this subsection shall be carried out in accordance with existing procedures applicable to reprogramming notifications for the appropriate congressional committees. Any proposed transfer for which notice is given to the appropriate congressional committees shall be accompanied by a report explaining the nature of the proposed transfer and how it satisfies the requirements of this subsection. In addition, the Select Committee on Intelligence of the Senate and the Permanent Select Committee on Intelligence of the House of Representatives shall be promptly notified of any transfer of funds made pursuant to this subsection in any case in which the transfer would not have otherwise required reprogramming notification under procedures in effect as of October 24, 1992.

(5) The Director shall promptly submit to the Select Committee on Intelligence of the Senate and to the Permanent Select Committee on Intelligence of the House of Representatives and, in the case of the transfer of personnel to or from the Department of Defense, the Committee on Armed Services of the Senate and the Committee on National Security of the House of Representatives, a report on any transfer of personnel made pursuant to this subsection. The Director shall include in any such report an explanation of the nature of the transfer and how it satisfies the requirements of this subsection.

(e) Coordination with foreign governments. Under the direction of the National Security Council and in a manner consistent with section 3927 of title 22, the Director shall coordinate the relationships between elements of the intelligence community and the intelligence or security services of foreign governments on all matters involving intelligence related to the national security or involving intelligence acquired through clandestine means.

(f) Use of personnel. The Director shall, in coordination with the heads of departments and agencies with elements in the intelligence community, institute policies and programs within the intelligence community—

(1) to provide for the rotation of personnel between the elements of the intelligence community, where appropriate, and to make such rotated service a factor to be considered for promotion to senior positions; and

(2) to consolidate, wherever possible, personnel, administrative, and security programs to reduce the overall costs of these activities within the intelligence community.

(g) Termination of employment of CIA employees. Notwithstanding the provisions of any other law, the Director may, in the Director's discretion, terminate the employment of any officer or employee of the Central Intelligence Agency whenever the Director shall deem such termination necessary or advisable in the interests of the United States. Any such termination shall not affect the right of the officer or employee terminated to seek or accept employment in any other department or agency of the Government if declared eligible for such employment by the Office of Personnel Management.

Sec. 403-5.

Responsibilities of Secretary of Defense pertaining to National Foreign Intelligence Program

(a) In general. The Secretary of Defense, in consultation with the Director of Central Intelligence, shall—

(1) ensure that the budgets of the elements of the intelligence community within the Department of Defense are adequate to satisfy the overall intelligence needs of the Department of Defense, including the needs of the chairman of the Joint Chiefs of Staff and the commanders of the unified and specified commands and, wherever such elements are performing governmentwide functions, the needs of other departments and agencies;

(2) ensure appropriate implementation of the policies and resource decisions of the Director of Central Intelligence by elements of the Department of Defense within the National Foreign Intelligence Program;

(3) ensure that the tactical intelligence activities of the Department of Defense complement and are compatible with intelligence activities under the National Foreign Intelligence Program;

(4) ensure that the elements of the intelligence community within the Department of Defense are responsive and timely with respect to satisfying the needs of operational military forces;

(5) eliminate waste and unnecessary duplication among the intelligence activities of the Department of Defense; and

(6) ensure that intelligence activities of the Department of Defense are conducted jointly where appropriate.

(b) Responsibility for performance of specific functions. Consistent with sections 403-3 and 403-4 of this title, the Secretary of Defense shall ensure—

(1) through the National Security Agency (except as otherwise directed by the President or the National Security Council), the continued operation of an effective unified organization for the conduct of signals intelligence activities and shall ensure that the product is disseminated in a timely manner to authorized recipients;

(2) through the National Imagery and Mapping Agency (except as otherwise directed by the President or the National Security Council), with appropriate representation from the intelligence community, the continued operation of an effective unified organization within the Department of Defense—

(A) for carrying out tasking of imagery collection;

(B) for the coordination of imagery processing and exploitation activities;

(C) for ensuring the dissemination of imagery in a timely manner to authorized recipients; and

(D) notwithstanding any other provision of law, for—

(i) prescribing technical architecture and standards related to imagery intelligence and geospatial information and ensuring compliance with such architecture and standards; and

(ii) developing and fielding systems of common concern related to imagery intelligence and geospatial information;

(3) through the National Reconnaissance Office (except as otherwise directed by the President or the National Security

Council), the continued operation of an effective unified organization for the research and development, acquisition, and operation of overhead reconnaissance systems necessary to satisfy the requirements of all elements of the intelligence community;

(4) through the Defense Intelligence Agency (except as otherwise directed by the President or the National Security Council), the continued operation of an effective unified system within the Department of Defense for the production of timely, objective military and military-related intelligence, based upon all sources available to the intelligence community, and shall ensure the appropriate dissemination of such intelligence to authorized recipients;

(5) through the Defense Intelligence Agency (except as otherwise directed by the President or the National Security Council), effective management of Department of Defense human intelligence activities, including defense attaches; and

(6) that the military departments maintain sufficient capabilities to collect and produce intelligence to meet—

(A) the requirements of the Director of Central Intelligence;

(B) the requirements of the Secretary of Defense or the Chairman of the Joint Chiefs of Staff;

(C) the requirements of the unified and specified combatant commands and of joint operations; and

(D) the specialized requirements of the military departments for intelligence necessary to support tactical commanders, military planners, the research and development process, the acquisition of military equipment, and training and doctrine.

(c) Use of elements of Department of Defense. The Secretary of Defense, in carrying out the functions described in this section, may use such elements of the Department of Defense as may be appropriate for the execution of those functions, in addition to, or in lieu of, the elements identified in this section.

(d) Annual evaluation of the Director of Central Intelligence. The Director of Central Intelligence, in consultation with the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, shall submit each year to the Committee on Foreign Intelligence of the National Security Council and the appropriate congressional committees (as defined in section 404d(c) of this title) an evaluation of the performance and the responsiveness of the National Security Agency, the National Reconnaissance Office, and the National Imagery and Mapping Agency in meeting their national missions.

Sec. 403-5a.

Assistance to United States law enforcement agencies

(a) Authority to provide assistance. Subject to subsection (b) of this section, elements of the intelligence community may, upon the request of a United States law enforcement agency, collect information outside the United States about individuals who are not United States persons. Such elements may collect such information notwithstanding that the law enforcement agency intends to use the information collected for purposes of a law enforcement investigation or counterintelligence investigation.

(b) Limitation on assistance by elements of Department of Defense.

(1) With respect to elements within the Department of Defense, the authority in subsection (a) of this section applies only to the following:

- (A) The National Security Agency.
- (B) The National Reconnaissance Office.
- (C) The National Imagery and Mapping Agency.
- (D) The Defense Intelligence Agency.

(2) Assistance provided under this section by elements of the Department of Defense may not include the direct participation of a member of the Army, Navy, Air Force, or Marine Corps in an arrest or similar activity.

(3) Assistance may not be provided under this section by an element of the Department of Defense if the provision of such assistance will adversely affect the military preparedness of the United States.

(4) The Secretary of Defense shall prescribe regulations governing the exercise of authority under this section by elements of the Department of Defense, including regulations relating to the protection of sources and methods in the exercise of such authority.

(c) Definitions. For purposes of subsection (a) of this section:

(1) The term “United States law enforcement agency” means any department or agency of the Federal Government that the Attorney General designates as law enforcement agency for purposes of this section.

(2) The term “United States person” means the following:

- (A) A United States citizen.
- (B) An alien known by the intelligence agency concerned to be a permanent resident alien.

(C) An unincorporated association substantially composed of United States citizens or permanent resident aliens.

(D) A corporation incorporated in the United States, except for a corporation directed and controlled by a foreign government or governments.

Sec. 403-6.

Appointment of officials responsible for intelligence-related activities

(a) Concurrence of DCI in certain appointments.

(1) In the event of a vacancy in a position referred to in paragraph (2), the Secretary of Defense shall obtain the concurrence of the Director of Central Intelligence before recommending to the President an individual for appointment to the position. If the Director does not concur in the recommendation, the Secretary may make the recommendation to the President without the Director's concurrence, but shall include in the recommendation a statement that the Director does not concur in the recommendation.

(2) Paragraph (1) applies to the following positions:

(A) The Director of the National Security Agency.

(B) The Director of the National Reconnaissance Office.

(C) The Director of the National Imagery and Mapping Agency.

(b) Consultation with DCI in certain appointments.

(1) In the event of a vacancy in a position referred to in paragraph (2), the head of the department or agency having juris-

diction over the position shall consult with the Director of Central Intelligence before appointing an individual to fill the vacancy or recommending to the President an individual to be nominated to fill the vacancy.

(2) Paragraph (1) applies to the following positions:

(A) The Director of the Defense Intelligence Agency.

(B) The Assistant Secretary of State for Intelligence and Research.

(C) The Director of the Office of Nonproliferation and National Security of the Department of Energy.

(3) In the event of a vacancy in the position of the Assistant Director, National Security Division of the Federal Bureau of Investigation, the Director of the Federal Bureau of Investigation shall provide timely notice to the Director of Central Intelligence of the recommendation of the Director of the Federal Bureau of Investigation of an individual to fill the position in order that the Director of Central Intelligence may consult with the Director of the Federal Bureau of Investigation before the Attorney General appoints an individual to fill the vacancy.

Executive Order 12333—United States Intelligence, December 4, 1981

1.4 The Intelligence Community.

The agencies within the Intelligence Community shall, in accordance with applicable United States law and with the other provisions of this Order, conduct intelligence activities necessary for the conduct of foreign relations and the protection of the national security of the United States, including:

- (a) Collection of information needed by the President, the National Security Council, the Secretaries of State and Defense, and other Executive Branch officials for the performance of their duties and responsibilities;
- (b) Production and dissemination of intelligence;
- (c) Collection of information concerning, and the conduct of activities to protect against, intelligence activities directed against the United States, international terrorist and international narcotics activities, and other hostile activities directed against the United States by foreign powers, organizations, persons, and their agents;
- (d) Special activities;
- (e) Administrative and support activities within the United States and abroad necessary for the performance of authorized activities; and (f) Such other intelligence activities as the President may direct from time to time.

1.5 Director of Central Intelligence.

In order to discharge the duties and responsibilities prescribed by law, the Director of Central Intelligence shall be responsible directly to the President and the NSC and shall:

- (a) Act as the primary adviser to the President and the NSC on national foreign intelligence and provide the President and other officials in the Executive Branch with national foreign intelligence;
- (b) Develop such objectives and guidance for the Intelligence Community as will enhance capabilities for responding to expected future needs for national foreign intelligence;

- (c) Promote the development and maintenance of services of common concern by designated intelligence organizations on behalf of the Intelligence Community;
- (d) Ensure implementation of special activities;
- (e) Formulate policies concerning foreign intelligence and counterintelligence arrangements with foreign governments, coordinate foreign intelligence and counterintelligence relationships between agencies of the Intelligence Community and the intelligence or internal security services of foreign governments, and establish procedures governing the conduct of liaison by any department or agency with such services on narcotics activities;
- (f) Participate in the development of procedures approved by the Attorney General governing criminal narcotics intelligence activities abroad to ensure that these activities are consistent with foreign intelligence programs;
- (g) Ensure the establishment by the Intelligence Community of common security and access standards for managing and handling foreign intelligence systems, information, and products;
- (h) Ensure that programs are developed which protect intelligence sources, methods, and analytical procedures;
- (i) Establish uniform criteria for the determination of relative priorities for the transmission of critical national foreign intelligence, and advise the Secretary of Defense concerning the communications requirements of the Intelligence Community for the transmission of such intelligence;
- (j) Establish appropriate staffs, committees, or other advisory groups to assist in the execution of the Director's responsibilities;

(k) Have full responsibility for production and dissemination of national foreign intelligence, and authority to levy analytic tasks on departmental intelligence production organizations, in consultation with those organizations, ensuring that appropriate mechanisms for competitive analysis are developed so that diverse points of view are considered fully and differences of judgment within the Intelligence Community are brought to the attention of national policymakers;

(l) Ensure the timely exploitation and dissemination of data gathered by national foreign intelligence collection means, and ensure that the resulting intelligence is disseminated immediately to appropriate government entities and military commands;

(m) Establish mechanisms which translate national foreign intelligence objectives and priorities approved by the NSC into specific guidance for the Intelligence Community, resolve conflicts in tasking priority, provide to departments and agencies having information collection capabilities that are not part of the National Foreign Intelligence Program advisory tasking concerning collection of national foreign intelligence, and provide for the development of plans and arrangements for transfer of required collection tasking authority to the Secretary of Defense when directed by the President;

(n) Develop, with the advice of the program managers and departments and agencies concerned, the consolidated National Foreign Intelligence Program budget, and present it to the President and the Congress;

(o) Review and approve all requests for reprogramming National Foreign Intelligence Program funds, in accordance with guidelines established by the Office of Management and Budget;

(p) Monitor National Foreign Intelligence Program implementation, and, as necessary, conduct program and performance audits and evaluations;

(q) Together with the Secretary of Defense, ensure that there is no unnecessary overlap between national foreign intelligence programs and Department of Defense intelligence programs consistent with the requirement to develop competitive analysis, and provide to and obtain from the Secretary of Defense all information necessary for this purpose;

(r) In accordance with law and relevant procedures approved by the Attorney General under this Order, give the heads of the departments and agencies access to all intelligence, developed by the CIA or the staff elements of the Director of Central Intelligence, relevant to the national intelligence needs of the departments and agencies; and

(s) Facilitate the use of national foreign intelligence products by Congress in a secure manner.

1.11 The Department of Defense.

The Secretary of Defense shall:

(a) Collect national foreign intelligence and be responsive to collection tasking by the Director of Central Intelligence;

(b) Collect, produce and disseminate military and military-related foreign intelligence and counterintelligence as required for execution of the Secretary's responsibilities;

(c) Conduct programs and missions necessary to fulfill national, departmental and tactical foreign intelligence requirements;

- (d) Conduct counterintelligence activities in support of Department of Defense components outside the United States in coordination with the CIA, and within the United States in coordination with the FBI pursuant to procedures agreed upon by the Secretary of Defense and the Attorney General;
- (e) Conduct, as the executive agent of the United States Government, signals intelligence and communications security activities, except as otherwise directed by the NSC;
- (f) Provide for the timely transmission of critical intelligence, as defined by the Director of Central Intelligence, within the United States Government;
- (g) Carry out or contract for research, development and procurement of technical systems and devices relating to authorized intelligence functions;
- (h) Protect the security of Department of Defense installations, activities, property, information, and employees by appropriate means, including such investigations of applicants, employees, contractors, and other persons with similar associations with the Department of Defense as are necessary;
- (i) Establish and maintain military intelligence relationships and military intelligence exchange programs with selected cooperative foreign defense establishments and international organizations, and ensure that such relationships and programs are in accordance with policies formulated by the Director of Central Intelligence;
- (j) Direct, operate, control and provide fiscal management for the National Security Agency and for defense and military intelligence and national reconnaissance entities; and
- (k) Conduct such administrative and technical support activities within and outside the United States as are necessary to

perform the functions described in sections (a) through (j) above.

1.12 Intelligence Components Utilized by the Secretary of Defense.

In carrying out the responsibilities assigned in section 1.11, the Secretary of Defense is authorized to utilize the following:

(a) Defense Intelligence Agency, whose responsibilities shall include;

(1) Collection, production, or, through tasking and coordination, provision of military and military-related intelligence for the Secretary of Defense, the Joint Chiefs of Staff, other Defense components, and, as appropriate, non-Defense agencies;

(2) Collection and provision of military intelligence for national foreign intelligence and counterintelligence products;

(3) Coordination of all Department of Defense intelligence collection requirements;

(4) Management of the Defense Attache system; and (5) Provision of foreign intelligence and counterintelligence staff support as directed by the Joint Chiefs of Staff.

(b) National Security Agency, whose responsibilities shall include:

(1) Establishment and operation of an effective unified organization for signals intelligence activities, except for the delegation of operational control over certain operations that are conducted through other elements of the Intelligence Community. No other department or agency

may engage in signals intelligence activities except pursuant to a delegation by the Secretary of Defense;

(2) Control of signals intelligence collection and processing activities, including assignment of resources to an appropriate agent for such periods and tasks as required for the direct support of military commanders;

(3) Collection of signals intelligence information for national foreign intelligence purposes in accordance with guidance from the Director of Central Intelligence;

(4) Processing of signals intelligence data for national foreign intelligence purposes in accordance with guidance from the Director of Central Intelligence;

(5) Dissemination of signals intelligence information for national foreign intelligence purposes to authorized elements of the Government, including the military services, in accordance with guidance from the Director of Central Intelligence;

(6) Collection, processing and dissemination of signals intelligence information for counterintelligence purposes;

(7) Provision of signals intelligence support for the conduct of military operations in accordance with tasking, priorities, and standards of timeliness assigned by the Secretary of Defense. If provision of such support requires use of national collection systems, these systems will be tasked within existing guidance from the Director of Central Intelligence;

(8) Executing the responsibilities of the Secretary of Defense as executive agent for the communications security of the United States Government;

(9) Conduct of research and development to meet the needs of the United States for signals intelligence and communications security;

(10) Protection of the security of its installations, activities, property, information, and employees by appropriate means, including such investigations of applicants, employees, contractors, and other persons with similar associations with the NSA as are necessary;

(11) Prescribing, within its field of authorized operations, security regulations covering operating practices, including the transmission, handling and distribution of signals intelligence and communications security material within and among the elements under control of the Director of the NSA, and exercising the necessary supervisory control to ensure compliance with the regulations;

(12) Conduct of foreign cryptologic liaison relationships, with liaison for intelligence purposes conducted in accordance with policies formulated by the Director of Central Intelligence; and (13) Conduct of such administrative and technical support activities within and outside the United States as are necessary to perform the functions described in sections (1) through (12) above, including procurement.

(c) Offices for the collection of specialized intelligence through reconnaissance programs, whose responsibilities shall include:

(1) Carrying out consolidated reconnaissance programs for specialized intelligence;

(2) Responding to tasking in accordance with procedures established by the Director of Central Intelligence; and

(3) Delegating authority to the various departments and agencies for research, development, procurement, and operation of designated means of collection.

(d) The foreign intelligence and counterintelligence elements of the Army, Navy, Air Force, and Marine Corps, whose responsibilities shall include:

(1) Collection, production and dissemination of military and military-related foreign intelligence and counterintelligence, and information on the foreign aspects of narcotics production and trafficking. When collection is conducted in response to national foreign intelligence requirements, it will be conducted in accordance with guidance from the Director of Central Intelligence. Collection of national foreign intelligence, not otherwise obtainable, outside the United States shall be coordinated with the CIA, and such collection within the United States shall be coordinated with the FBI;

(2) Conduct of counterintelligence activities outside the United States in coordination with the CIA, and within the United States in coordination with the FBI; and

(3) Monitoring of the development, procurement and management of tactical intelligence systems and equipment and conducting related research, development, and test and evaluation activities.

(e) Other offices within the Department of Defense appropriate for conduct of the intelligence missions and responsibilities assigned to the Secretary of Defense. If such other offices are used for intelligence purposes, the provisions of Part 2 of this Order shall apply to those offices when used for those purposes.



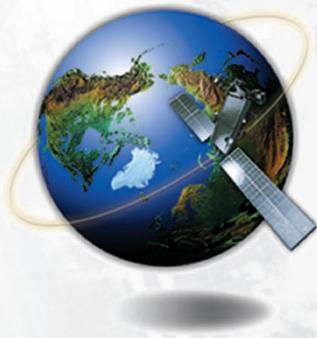
APPENDIX J

GLOSSARY OF ACRONYMS

ADCI/C	Assistant Director of Central Intelligence for Collection
ASAF/Space	Assistant Secretary of the Air Force for Space (NRO Director)
CFI	Committee on Foreign Intelligence
CIA	Central Intelligence Agency
CMO	Central MASINT Organization
COMMS	NRO Communications Directorate
DARO	Defense Airborne Reconnaissance Office
DCI	Director of Central Intelligence
DDCI	Deputy Director of Central Intelligence
DDCI/CM	Deputy Director of Central Intelligence for Community Management
DDMS	NRO's Deputy Director for Military Support
DDNS	NRO's Deputy Director for National Support
DIA	Defense Intelligence Agency
DoD	Department of Defense
DRSP	Defense Reconnaissance Support Program
DSPO	Defense Support Project Office
DSRP	Defense Space Reconnaissance Program

DS&T	CIA's Directorate of Science and Technology
EELV	Evolved Expendable Launch Vehicle
EXCOM	Executive Committee
FIA	Future Imagery Architecture
HPSCI	House Permanent Select Committee on Intelligence
HUMINT	Human Intelligence
IC	Intelligence Community
ICBM	Intercontinental Ballistic Missile
IMINT	Imagery Intelligence
IOSA	Integrated Overhead Signals Intelligence Architecture
JMIP	Joint Military Intelligence Program
JROC	Joint Requirements Oversight Council
MASINT	Measurement and Signature Intelligence
MIND	FIA's Mission Integration and Development Element
NASA	National Aeronautical and Space Agency
NFIP	National Foreign Intelligence Program
NIMA	National Imagery and Mapping Agency
NRO	National Reconnaissance Office
NRP	National Reconnaissance Program
NSA	National Security Agency
NSC	National Security Council

NSCID	National Security Council Intelligence Directive
OD&E	CIA's Office of Development and Engineering
OSR	Office of Space Reconnaissance
PDD	Presidential Decision Directive
RD&A	Research, Development and Acquisition
SAFSP	Secretary of the Air Force Office of Special Programs
SBIRS	Space-Based Infrared System
SIGINT	Signals Intelligence
SSCI	Senate Select Committee on Intelligence
SWARF	Senior Warfighters Forum
TIARA	Tactical Intelligence and Related Activities
TPED	Tasking, Processing, Exploitation, and Dissemination
USIB	United States Intelligence Board



APPENDIX K

COMMISSION STAFF

Kenneth F. Colucci	Chief of Staff
Arthur V. Grant	Executive Director
Americo R. Cinquegrana	Chief Review Counsel
Daniel J. Gallington	Chief Counsel
Andrew M. Langenbach	Executive Officer
Rodney P. Liesveld	Professional Staff
Robert R. Odell	Professional Staff
Jeanne W. Purdon	Security Officer
Doreen G. Romero	Administrative Staff
Bernard C. Victory	Professional Staff

