NATIONAL RECONNAISSANCE OFFICE
14675 Lee Road
Chantilly, VA 20151-1715

6 July 2009

Mr. Steven Aftergood
Senior Research Analyst
Federation of American Scientists
1725 DeSales St NW, 6th Floor
Washington, D.C. 20036

Dear Mr. Aftergood:

This is in response to your faxed letter, dated 5 March 2008, received in the Information Management Services Center of the National Reconnaissance Office (NRO) on 7 March 2008. Pursuant to the Freedom of Information Act (FOIA), you requested *"a copy of all unclassified portions of the NRO Congressional Budget Justification Book (CBJB) for Fiscal Year 2009."*

Your request was processed in accordance with the Freedom of Information Act, 5 U.S.C. § 552, as amended. A thorough search of our files and databases located one record, consisting of 465 pages that is responsive to your request. This record is being released to you in part. Material withheld is denied pursuant to FOIA exemption(b)(3) which applies to information specifically exempt by statute, 50 U.S.C. § 403-1(i) which protects intelligence sources and methods from unauthorized disclosure.

As you are aware, the FOIA authorizes federal agencies to assess fees for record services. Based upon the information provided, you have been placed in the "other" category of requesters, which means that a requester is responsible for charges incurred for the cost of search time exceeding two hours and duplication in excess of the first 100 pages of document reproduction in the processing of this request. In your request, you expressed a willingness to pay fees up to the amount of $50.00. The costs associated with processing your request include 346 pages at .15 per page which equals $51.90. In this case, all fees are being waived.

You have the right to appeal this determination by addressing your appeal to the NRO Appeal Authority, 14675 Lee Road, Chantilly, VA 20151-1715 within 60 days of the above date. Should you decide to do this, please explain the basis of your appeal.

If you have any questions, please call the Requester Service Center at (703) 227-9326 and reference case number F08-0053.

Sincerely,

Linda S. Hathaway
Chief, Information Access
And Release Team

Attachment:
NRO FY 2009 CBJB (446 pgs)

National Intelligence Program

FY 2009
Congressional Budget Justification

Volume IV

National Reconnaissance Program

February 2008

(U) CONTENTS

(U) PROGRAM MANAGER'S STATEMENT

(U) Introduction

~~(S~~ [redacted]

~~(S~~ [redacted]

(U) The US is arguably more reliant on overhead collection than ever before. To a large extent, satellite reconnaissance is the foundation for global situational awareness, and as such, it is an essential underpinning of the entire US intelligence effort. Space collection provides unique access to otherwise denied areas to provide persistent and responsive collection; and it does so without risk to human collectors or infringing upon the territorial sovereignty of other nations. It also enables users to quickly focus on almost any point on the globe to rapidly respond to emerging situations or to monitor ongoing events. The NRO provides direct support to the war on terrorism, deployed military forces, and other IC and DoD activities requiring near real-time situational awareness and sustained high resolution/high sensitivity collection capability 24 hours per day, seven days per week.

[1] ~~(S//NF)~~ [redacted]
[2] ~~(S//NF)~~

(U) Strategic Direction

(U//~~FOUO~~) The NRO is fundamentally transforming the way it conducts business to more effectively respond to the changing intelligence environment and improve support to its customers. [redacted]

More importantly, intelligence problems are becoming more complex and increasingly require synergistic, multi-INT, multi-source solutions.

~~(S//~~ [redacted]

[redacted]

~~(S/~~ [redacted]

(U) To accelerate the delivery and reduce the cost of new satellite designs, the NRO is increasing the use of commercial off-the-shelf technology whenever possible. The overarching intent is to maximize the intelligence value and cost effectiveness of the NRP within a larger multi-INT, Community-based architectural construct. The NRO is pursuing these objectives while continuing to meet its baseline commitments as defined in our Functional Availability requirements.

(U) Currently, the NRO is implementing the internal organizational, management, and cultural changes to meet the challenges associated with the vision outlined in the NRO *Strategic Framework*. Success will require the NRO to readdress the 40 years of INT-based tradition embedded within the NRO and the IC. It will require the NRO to rethink its traditional view of the world. These are significant changes and success will not come easily or quickly. However, I believe these changes are essential and I view them as key underpinnings in the NRO's future ability to support IC priorities and initiatives.

(U) Performance Measures

(U) This budget request integrates IC performance plans with the request and includes performance information supporting the IC's migration to a complete performance budget by the FY 2010 request. Detailed performance measures and results are integrated throughout the request. This request, in concert with the FY 2007 IC Agency Financial Reports provided in November 2007, and the FY 2007 IC Highlights reports to be provided under separate cover, meets the requirement for an annual Performance Accountability Report for the IC. Additionally, we will publish an FY 2007 NRO Highlights report in February 2008. I am committed to demonstrating that our resources produce measurable results.

(U) In the final analysis, NRO on-orbit and ground station performance is directly linked to the effectiveness of the NRO's acquisition processes and the quality of the products delivered from NRO development efforts. Therefore, acquisition cost, schedule, and performance measures are key metrics of NRO success. Cost performance and schedule milestones are indicative of progress during the development phase, and delivered performance—hardware as well as software capabilities—ultimately define and limit how well the NRO is able to perform against IC tasking requirements. Outside factors occasionally affect NRO's ability to achieve our acquisition cost, schedule, and performance measures. NRO acquisition measures are fully defined in its Baseline Agreement and Acquisition Reports which are developed in collaboration with NRO customers and the Office of the DNI. A subset of these measures is included in this document.

(U) At the architectural-level, NRO performance against IC-level commitments is reflected in the NRO's ability to meet its Functional Availability requirements. Functional Availability requirements are the basis for all satellite acquisition and replenishment planning. Performance in this area is driven by NRO, as well as IC controlled factors and requirements.

(U) Constellation Fragility

~~(S//TK//NF)~~ [redacted]

[redacted]

~~(S//TK//NF)~~ [redacted]

(U) The FY 2009 Budget Request

(U) The NRO FY 2009 request supports the *NIS*, the IC's 500 Day Plan, and documented user requirements. It also supports the NRO's long term efforts to implement the NRO *Strategic Framework*. At the summary level, our FY 2009 request:

- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- (U) Funds studies and analysis, requirements development, and initial development/deployment of new collaborative data sharing tools to include tools to support sharing with tactical environments.
- (U) Continues the transition of current diversified ground capabilities toward a single, unified ground architecture.

(U) Conclusion

(U) This request represents a balance between responsiveness to immediate and near-term user needs and the imperative to maintain the longer-term investment levels necessary to sustain collection throughout the FYDP. This request also is responsive to IC priorities and supports the technical, organizational, and managerial initiatives necessary to realize the vision outlined in the NRO *Strategic Framework*.

Scott F. Large
Director
National Reconnaissance Office

(U) Management Oversight

(U) Management oversight for the NRP is provided by:

- (U) Director of National Intelligence.
- (U) Secretary of Defense.
- (U) Office of Management and Budget.

(U) Appropriations Use

~~(S//NF)~~ [redacted]

(U) Funding for *National Intelligence Strategy* Mission Objectives

(U) The NRO's purpose is summarized in 50 USC 403-5 as follows: "the research and development, acquisition, and operation of overhead reconnaissance systems necessary to satisfy the requirements of all elements of the intelligence community." Under this purpose, the NRO provides and/or operates as a continuing service, suitable overhead reconnaissance systems that enable NRO and its partners to plan, direct, and perform overhead collection; to process and exploit overhead and associated non-overhead data; and to distribute, disseminate, share, and communicate intelligence as necessary to satisfy the requirements of all elements of the IC.

(U) The NRO's key role in the partnership is to keep its systems available and capable on a continual basis to satisfy mission partner established requirements. This includes regularly replenishing the capabilities and modernizing current capabilities in response to its partners' approved requirements. As a result, NRO systems support all of the NIS Mission Objectives, primarily through the operational availability of its satellites and ground stations. Specifically, satellite normalized operational availability measures the percentage of time each on-orbit system (including command and control and any relay) was available for operations during a fiscal year, normalized to beginning of life.

(U) The operations of SIGINT and GEOINT Stations, and GEOINT/SIGINT Integrated Ground Development activities support the NIS Mission Objectives and are reflected in Figure 1 that follows. These ECs are included in the Processing and Exploitation functional category. The Collection and Operations funding reflects NRO compartmented programs funding included in the Sensitive Technical Collection EC. Finally, Research and Technology funding reflects Advanced Technology Demonstrations as well as Basic and Applied Research projects.

(U) Figure 1 depicts NRP funding associated with each mission objective. Mission Objectives 1, 2 and 4 are slightly higher due to the inclusion of Compartmented Programs, Advanced Technology, and Ground Segment Development projects. Since projects support more than one mission objective, the total funding shown exceeds the NRP budget request. Note: Funding for acquisition projects that have not achieved an initial operating capability, and projects that provide (or will provide) general support for intelligence activities (e.g. logistics, infrastructure, corporate management), are not included.

(U) WORKFORCE PROFILE

(U) The NRO is responsible for the development, acquisition, launch and operation of overhead reconnaissance capabilities that are essential for US national security. As part of the IC, the NRO plays a primary role in achieving information superiority for the US government. The Director of the NRO also serves as the Assistant to the Secretary of the Air Force (Intelligence Space Technology). As such the Director of the NRO supports the Secretary of the Air Force in carrying out the DoD Executive Agent for Space responsibilities.

(U) NRO partners with NGA and NSA to provide

- Global communications.
- Signals intelligence and near real-time imagery.
- Critical information to national, military and civil customers.

(U) The NRO is functionally organized around four directorates: IMINT, SIGINT, Advanced Systems and Technology and Communications. Each of these directorates is supported by financial management, contracting, systems engineering, and customer and mission support. The NRO population consists mainly of civilian and military personnel belonging to the Air Force, CIA, Navy, Army, NSA, and a small contingent of officers from other government agencies. The NRO is unique in that its workforce is supplied by the intelligence and defense communities. The NRO does not employ its own workforce and does not directly hire personnel; the NRO budgets for and reimburses other organizations primarily for civilian assigned personnel. The workforce charts refer to the NRO authorized civilian positions and does not include the military or CIA Office of Development and Engineering (OD&E) positions assigned to the NRO. Following are demographics on the NRO workforce:

(U) **Grade Distribution by Age:** The NRO grade distribution is a reflection of the technical expertise required to achieve its space mission with a majority of the workforce residing in the senior grades: GS-13 thru senior executives. Furthermore, the NRO average age is consistent with the trend in the federal government with NRO employees in the late-40's to mid-50's bracket holding senior ranking positions with 15 plus years of service.

(U) **Years to Optional Retirement:** As is the case in many federal organizations, the NRO has a growing number of experienced officers with or approaching retirement eligibility. Of the NRO current workforce, 38 percent will be eligible to retire over the next 5 years and 58 percent will be eligible to retire over the next ten years.

(U) **Workforce Positions and Attrition Rates:** NRP civilian positions have been stable from FY 2004 through FY 2008; however, there is a planned increase of 66 civilian positions in FY 2009. The NRO has historically experienced stable fill rates given its unique staffing model. This staffing model results in NRO authorized DoD and CIA civilian employees providing the stability for the workforce while military members rotate to new assignments outside the NRO every three to four years. The NRO average fill rate is projected to continue at 85 percent due partially to the increase in positions and the ability of parent organizations to meet these new requirements.

(U) **NRP Workforce Positions by Budget Category and Training Dollars by Budget Categories:** The majority of civilian employees work in mission support occupations, with the remaining civilian population working in core mission areas: research and development, engineering, information technology, and operations. The distribution of training dollars is proportional to the distribution of the workforce according to mission area/budget category, noting approximately one third of the training budget within the Enterprise Management and Support Budget Category directly supports the NRO's core missions of acquisition management and system engineering. In addition, parent organizations provided specific training for their members over and above what the NRO dollars provided. The NRO has historically received high marks for its commitment in providing quality training and educational opportunities to meet mission requirements and the professional needs of its workforce. This emphasis on training and education will continue with the newly established NRO University

which will create and sustain training programs focused on clear corporate objectives. This integrated, career-based approach to training and education will ensure employees are grounded in a shared understanding of the NRO mission and principles.

~~(S//NF)~~ [redacted]

(U) Staffing and Demographic Trends:

(U) NRO fill rates have remained stable over the period FY 2004 – 2007. Given the transient nature of the workforce and the realities of filling classified positions, on the surface this trend appears positive. However, the NRO's average fill rate is 85 percent, meaning that 15 percent of NRO positions are vacant. Fill rates vary by partner agency and occupation and are due to partner agency workforce policies.

(U) In order to meet Congressionally-directed manning levels, the Department of the Air Force reevaluated their process for filling Special Program Assignments for military personnel. Additionally, the Department of the Air Force utilized the following force shaping measures to reduce end strength during this time period, which has had some affect on the NRO.

- (U) Force Shaping Boards targeting company grade officers for early separation.
- (U) Encouraging early separations through Voluntary Separation Pay for captains and majors.
- (U) Selective Early Retirement Boards for senior officers.
- (U) Reenlistments for personnel in or willing to cross-train into occupations requiring critical skills.

(U) Currently, the Air Force attempts to maintain a consistent fill of their NRO positions. In the past, these assignments were 4-year tours exempt from deployment. As a result of the Air Force's contributions to the Global War on Terrorism, recent policy changes have evolved thus affecting Air Force personnel assigned to the NRO in two ways: Air Force military tours for contracting officers and contracting enlisted members are no longer exempt from deployments and the current fill policy for all specialties is at a rate less than 100 percent, but based upon rates higher than worldwide entitlement (or fill) rates. However, manning levels at NRO operational sites remain staffed at 100 percent. Given that the Air Force military personnel account for significant portions of NRO mission critical occupations (i.e. 34 percent of acquisitions and engineers, 55 percent of operations, and 78 percent of information technology), any decrease in manning rates will strike at the heart of NRO's mission capabilities.

(U) Similar to the Air Force military personnel, the Navy military personnel are subject to deployments. While Navy military fill rates have remained steady, averaging above 80 percent, the personnel assigned to the NRO must still respond to mid-tour deployment needs, thus reducing the number of personnel actually working at the NRO.

(U) An additional area of concern associated with growth is inexperienced personnel. For example, new arrivals (between FY 2003 - 2006) from the CIA have significantly less CIA experience upon arrival than those arriving between FY 1997 - 2002. As a result, the NRO must now be prepared to train and develop these less experienced employees.

(U) The NRO has a growing number of new employees, including a significant number of former military and government civilians, who have limited experience within their new parent organization. Of the NRO current workforce, 60 percent of GS-12's and below have five years or less experience with their parent agency. Included in the 60 percent of the workforce with five years or less of service with their parent agency, approximately 65 percent were hired by the CIA with less than full performance level experience (based on grade/rank at the time of hire) in their occupation.

(U) Consolidated Employment Plan and Strategy

(U) The Consolidated Employment Plan concept currently focuses on civilian positions and personnel funded by each agency. However, focusing solely on civilian issues presents a limited view of the NRO workforce requirements given that the military and non-NRP funded employees represent a large component of the NRO workforce. Thus, any complete discussion of the NRO workforce would include all components, to include those mentioned above as well as Federally Funded Research and Development Center, Contract Advisory and Assistance Services, and Systems Engineering and Technical Analysis contractors in order to present a complete and accurate description of issues affecting the workforce.

(U) The NRO has a limited but expanding role in recruiting and maintaining workforce manpower levels. The nature and complexity of the NRO workforce demands that we work through partner agencies. However, the NRO is working to ensure an effective "corporate look" at the health of the total NRO workforce. With increasing demands for talent both within the NRO and the partner elements, the NRO is taking an active approach in all phases of the recruitment process:

- (U) Identifying and defending requirements.
- (U) Participating in efforts to locate potential talent pools.
- (U) Interviewing and selecting candidates for NRO requirements.
- (U) Maintaining contact with applicants throughout the process.
- (U) Ensuring that positive socialization occurs once applicants enter on duty with the NRO.

(U) Partner agency workforce initiatives plus demographic and occupation trends, directly impact the talent pool from which the NRO draws. For example:

- (U) Changing partner agencies' staffing policies and priorities impact their capacity to staff existing and new NRO positions.
- (U) Deployment of military personnel to support the Global War on Terror for periods of 6-12 months results in positions that are filled on paper only.
- (U) Demographic realities of the partner agencies' workforce are reflected in the NRO workforce as well.

(U) In response to these challenges, the NRO is implementing a strategic approach to workforce modeling, aligning short- and long-term workforce requirements against partner element talent pools, taking into account workforce demographics and partner element workforce strategies to assess impacts on talent available to the NRO. This effort will provide the data and information required to support requests to partner elements, the DNI, DoD, or oversight bodies for changes to the NRO staffing model and/or mix.

(U) In 2006, the NRO and Air Force signed a Statement of Intent, which included the establishment of the Space Assignment Advisory Board. The goal of the Advisory Board is to develop a greater pool of senior space leaders with operations and acquisition experience. In 2007, the NRO and the CIA signed a revised MOA regarding management and development of the CIA workforce at the NRO. The revised MOA includes initiatives to ensure consistency and equity across the CIA workforce at the NRO, streamlining workforce management processes and procedures and delegating authorities to NRO managers.

(U) FY 2009 Program Build Adjustments

(U) The majority of the new positions requested in this budget will be civilian Air Force. The NRO has requested an 11 percent increase in civilian Air Force and Navy positions and a 1 percent increase in non-OD&E CIA positions. The increase responds to the impact of Air Force workforce shaping initiatives and deployments, and Congressional concern to reduce contractor support. The majority of the Air Force civilian increase are in the acquisitions and contracting occupations and intended to mitigate the reduction in the staffing. The CIA add is focused on building the NRO's enterprise IT capabilities.

(U) GEOINT EO
(U) NEXT GENERATION EO

[redacted]

This Exhibit is ~~SECRET//NOFORN~~ Totals may not add due to rounding

(U) Description

(U) The Next Generation Electro-optical (NGEO) project provides resources for:

- ~~(S//TK//NF)~~ [redacted]
- (U) Concept development for the integrated ground system.
- (U) Associated systems engineering activities.
- ~~(S//TK//NF)~~ [redacted]
- (U) Trade studies and analyses.

~~(S//TK//NF)~~ [redacted]

[redacted]

~~(S//TK//NF)~~ [redacted]

(U) The NGEO project also includes resources for:

- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- (U) CAAS/SETA support.
- (U) FFRDC support.

(U) GEOINT EO
(U) EO INTEGRATION & SUPPORT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

~~(S//~~[redacted]

- (U) System trade studies.
- (U) Requirements analysis.
- (U) Prime contractor design evaluation.
- (U) Modeling and simulation.
- (U) Program/business management support.
- (U) Acquisition support activities such as engineering change proposals and acquisition planning.

(U) SIGINT LOW
(U) LOW ALTITUDE INTEGRATION & SUPPORT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~ Totals may not add due to rounding

(U) Description

(U) The Low Altitude Integration and Support project provides resources for engineering and technical assistance SIGINT LEO, E2 maintenance, travel, awards, and training.

(U) This project provides the Contracted Advisory and Assistance Services (CAAS), non-CAAS, and Federally Funded Research and Development Center (FFRDC) engineering and technical assistance resources to support the Low Altitude Integration and Support efforts which include:

- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- (U) Conducting independent reviews of prime contractor acquisition performance.
- ~~(S//TK//~~ [redacted]
- (U) Evaluating the C&C segment development and special studies and analyses of system upgrades.
- (U) Conducting acquisition planning.
- (U) Adaptive and corrective E2 maintenance and anomaly support.
- (S//TK// [redacted]
- (U) Maintaining key program documentation, including the specifications, interface control documents, CONOPS, risk management plans, verification plans, and readiness plans.

(U) The project provides resources for personnel assigned within the SIGINT Low Expenditure Center to travel and receive training in support of the mission. Awards are given in recognition of outstanding performance on a yearly basis to deserving personnel.

(U) SIGINT HIGH

~~(S//TK/~~ [redacted]

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

~~(TS//SI/TK/~~ [redacted]

- (U) Commercial COMSAT-based solution.
- (U) Ten-year design life.
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- (U) Firm fixed price contract with performance-based provisions.
- (U) Commercial space product assurance practices.
- (U) US commercial launch vehicle and launch services.

(U) SPACE COMMUNICATIONS
(U) RELAY READINESS & LAUNCH

[redacted]

This Exhibit is ~~SECRET//TALENT KEYHOLE//NOFORN~~ Totals may not add due to rounding

(U) Description

~~(S//TK~~ [redacted]

- (U) Maintain and monitor vehicles for health and safety functions.
- (U) Maintain all required test and ground equipment at factory and launch sites.
- (U) Perform all planning for spacecraft integration for launch.
- (U) Perform all systems engineering required to support launch planning, rework, and anomalies.
- (U) Perform all required test activities for call-up or readiness activities.
- (U) Perform all required re-work resulting from latent problems or defects from the development contract identified after vehicle sell-off.
- (U) Upgrade aging subsystem test equipment and perform rework due to equipment anomalies.
- (U) Replenish component parts inventory to accommodate vehicle call-up.
- (U) Support satellite shipments to launch site, launch vehicle system integration, and final preparation through launch of the spacecraft, both in the factory and at the launch base.

(U) SPACE COMMUNICATIONS
(U) MISSION SYSTEM ENCRYPTION

[redacted]

This Exhibit is ~~SECRET//TALENT KEYHOLE//NOFORN~~ Totals may not add due to rounding

(U) Description

~~(S//TK//NF)~~ [redacted]

~~(S//TK//NF)~~ [redacted]

• (U) Focus development and implementation efforts on information systems security engineering and information assurance research and engineering for integration and implementation into the NRO communications capabilities to support NRO missions and programs.

— (U) Complete CryptoCore design and initiate CryptoCore component development for both space and ground, net-centric enabling solutions.

— ~~(S//TK//NF)~~ [redacted]

— (U//~~FOUO~~) Complete [redacted] sub-component interface and validate performance.

— ~~(S//TK//NF)~~ [redacted]

• (U//~~FOUO~~) Conduct analysis of vulnerabilities and capabilities of future communications for both space and terrestrial applications to forecast future information assurance technologies to include cryptographic security requirements.

• ~~(S//TK//NF)~~ [redacted]

• ~~(S//TK//NF)~~ [redacted]

• ~~(S//TK//NF)~~ [redacted]

(U) LAUNCH
(U) LAUNCH VEHICLES

[redacted]

This Exhibit is SECRET//NOFORN

Totals may not add due to rounding

(U) Description

(U) The primary purpose of this project is to procure EELV and conduct integration activities for NRO satellites. The NRO procures standard EELV hardware on a fixed price basis, fully funded two years prior to launch. Well-defined mission unique hardware plus integration efforts are incrementally funded beginning up to five years in advance of the launch date. The structure of the EELV contracts allows separate funding and accounting for NRO missions. The NRO has procuring contracting officer and contracting officer's technical representative authority for all NRO delivery orders on the Air Force EELV contracts.

(U) Schedules for Launch Vehicles are as follows:

- (S//TK/[redacted]
- (S//TK/[redacted]
- (S//[redacted]
- (S//TK/[redacted]
- (S//TK/[redacted]
- (S//TK/[redacted]
- (S//[redacted]
- (S//TK/[redacted]
- (S//[redacted]

(U) LAUNCH
(U) LAUNCH CAPABILITY INFRASTRUCTURE

[redacted]

This Exhibit is ~~SECRET~~ [redacted] Totals may not add due to rounding

(U) Description

(U) This project funds the EELV Launch Capability (ELC) contract to maintain the capability to launch government missions. It is separate from launch vehicle hardware, which is funded by the EELV Launch Services contracts. This contract arrangement is necessary because the robust commercial market envisioned in the original EELV construct in 1998 never materialized and the government is now the primary EELV customer. The funds in this project support retention of critical skills at the EELV contractor facilities and at the launch sites, and maintain proficiency of the booster contractor workforce.

(U) The landscape of US launch infrastructure changed significantly in December 2006 when the United Launch Alliance (ULA) was officially established to merge the launch processes of both Lockheed-Martin and Boeing into a single joint venture. ULA maintains both launch vehicle families, Atlas and Delta EELV, in order to strengthen assured access to space and to provide optimum flexibility for meeting required lift capabilities.

(U) The NRO and the Air Force are full partners in ensuring EELV launch capability for the nation. The funding request for this project represents the NRO's 30 percent share of the EELV ELC contract.

(U) LAUNCH
(U) LAUNCH OPS AND ENGINEERING

This Exhibit is SECRET//NOFORN

Totals may not add due to rounding

(U) Description

(U) The Launch Operations and Engineering project provides launch related support for all NRO satellite programs. Specifically, this project supports:

- (U) The NRO Payload Transportation System which provides secure transportation from factory to launch base and throughout launch base processing for all NRO satellites using NRO launch base facilities.
- (U) Use of forklifts, tractors, trailers, and other mechanical hardware for satellite vehicle (SV) electrical aerospace ground equipment and SV mechanical aerospace ground equipment.
- (U) SV and mission documentation requirements, including those required by the National Environmental Policy Act, and Occupational Safety and Health regulations.
- (U) Eastern and Western Range instrumentation support.
- (U) NRO Operations Squadron (NOPS) launch support, downrange/ascent telemetry capture, and processing operations for NRO launches.
- (U) Contracted Advisory and Assistance Services, Systems Engineering and Technical Analysis, and System Integration support.
- (U) Independent validation and verification (IV&V) of launch contractor mission design parameters.
- (U) NRO launch base administrative facility O&M.
- (U) NRO mission unique (secure) communication at the launch sites (e.g., secure launch pad communications for NRO payloads).

(U) LAUNCH
(U) ADVANCED PLANS

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Advanced Plans project funds engineering and risk reduction analysis and activities for NRO satellites. Specifically, the Advanced Plans project activities include:

- (U) Engineering activities affecting multiple satellite missions on one or multiple launch systems.
- (U) Early investigation and analyses of advanced launch systems for potential NRO application.
- (U) Early integration of NRO systems on new launch vehicles.
- (U) Launch vehicle performance and acquisition trades for new research and development programs.
- (U) Analysis of other innovative space lift concepts for potential launch of NRO payloads, including reusable launch vehicles.

(U) GEOINT STATIONS
(U) GEOINT GROUND OPERATIONS

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The GEOINT Ground Operations project includes resources to:

- ~~(S/~~ [redacted]
- ~~(S/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S/~~ [redacted]

— (U) Military operations.
— (U) Indications and Warning for impending events.
— (U) Treaty monitoring.
— (U) Weapons of mass destruction monitoring.
— (U) Worldwide disaster support.
— ~~(S/~~ [redacted]
— (U) Mapping, Charting and Geodesy.
— (U) Tip-off from SIGINT.
— (U) Search and rescue.

• (U) The GEOINT Ground Operations project provides tailored products to meet key military and national intelligence needs. Some examples of these tailored products are:

- ~~(S//~~ [redacted]
- ~~(S//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//~~ [redacted]

(U) GEOINT STATIONS
(U) GEOINT STATION INTEGRATION & SUPPORT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Integration and Support project provides resources to accomplish the following actions:

- ~~(S/~~ [redacted]
- (U) Systems engineering Contract Advisory and Assistance Services/ Systems Engineering and Technical Analysis (CAAS/SETA) for GEOINT Stations operations.
- (U) Integration, readiness, and verification activities in support of GEOINT/SIGINT developments and satellite launches
- (U) Product quality assurance.
- (U) Government personnel travel, mission training, and non-monetary awards.

(U) SIGINT STATIONS
(U) SIGINT GROUND OPERATIONS

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The SIGINT Ground Operations project includes resources to:

- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]

[redacted]

(U) The SIGINT Ground Operations project satisfies key military and national intelligence needs by providing:

- (U) Support to military operations.
  - ~~(S//~~ [redacted]
  - ~~(S//TK//~~ [redacted]
- (U) Tip-off search, test-event monitoring, crisis-area support, and indications and warning.
  - ~~(S//TK//~~ [redacted]
  - ~~(S//SI//TK//~~ [redacted]
  - ~~(S//SI//TK//~~ [redacted]

- (S//SI//TK/[redacted]
- (S//SI//TK/[redacted]
- (S//TK/[redacted]

• (U) SIGINT quick-reaction collection, processing, and analytical capability.

(S//TK/[redacted]

- (S//TK/[redacted]

• (U) Spacecraft anomaly resolution.

- (S//TK/[redacted]

• (S//TK/[redacted]

• (U) SIGINT mission planning and execution for the overhead SIGINT constellation.

• (U) Signal distribution within the MGSs and signal recording.

• (U) Maintenance for signal processing systems, and selected analysis and reporting systems.

• (U) 24-hours-a-day watch function at Overhead Collection Management Center (OCMC).

• (U) Mission critical information services including collected data management, computer user hardware and software support, and database management.

- (S//TK/[redacted]

• (U) Real-time and offline mission assessment services.

• (U) Infrastructure support such as networks, facilities, configuration management, asset recapitalization, and so forth.

(U) Real Estate Sales Reinvestment

(S//TK/[redacted]

(S//TK/[redacted]

(S//TK/[redacted]

(U) SIGINT STATIONS
(U) SIGINT STATION INTEGRATION & SUPPORT

This Exhibit is ~~SECRET//NOFORN~~ Totals may not add due to rounding

(U) Description

(U) The SIGINT Station Integration & Support project includes funding for systems engineering efforts addressing O&M engineering challenges affecting every aspect of SIGINT collection and production. The types of engineering support performed include:

- (U) Integration of space C&C systems, ground processing, and other infrastructure systems.
- (U) Validation and verification of the technical performance baseline.
- (U) Engineering readiness assessments of capabilities prior to insertion into the operational baseline.
- (U) On-orbit testing of new spacecraft functionality and capabilities.
- (U) Spacecraft anomaly resolution.
- (U) Evaluation of IOSA constellation strategy options.
- (U) Operational evaluations.
- (U) Operational need statement evaluations.
- (U) Operational testing and checkout support for legacy and IOSA spacecraft.
- (U) Engineering assessments of new operational capabilities.
- (U) Spacecraft decommissioning efforts.

(U) This project also provides funding for Contracted Advisory and Assistance Services and Federally Funded Research and Development Center support.

(U) This project further provides funding to support System Operations Directorate personnel travel, PCS moves to and from the NRO MGSs, mission training, and awards recognition.

(U) GEOINT/SIGINT INTEGRATED GROUND DEVELOPMENT, ENGINEERING & MANAGEMENT EXPENDITURE CENTER

(U) Introduction

(U) The GEOINT/SIGINT Integrated Ground Development, Engineering & Management Expenditure Center (Ground EC) has been restructured to support the transition of the current diversified architecture to a single, integrated architecture focused on providing multi-INT solutions to intelligence problems. This restructure furthers the unification of the NRO Ground EC begun in FY 2008 CBJB.

~~(S//TK)~~ [redacted]

- (U) Adaptive and responsive tasking, seamless interfaces between data providers and analysts.
- (U) Information sharing
- (U) Timely responsive production of high-quality intelligence products and services directly to meet current and future customer analytic priorities.

(U) To meet these objectives, the NRO UGA will enable:

- (U) Multi-INT, cross-site/cross-system (CS/CS) tasking, cueing, and cooperative collection; change detection, data fusion, data filtering, and data and information access; and global situational awareness.
- (U) Rapid insertion of technology for interoperability and to keep pace with evolving targets and threats.
- (U) Insertion of adaptive mission applications by applying commercial, state-of-the-art information technologies.

(U) Budget Crosswalk

(U) The following table reflects changes in the FY 2009 request from FY 2008 appropriations.

(U) GEOINT/SIGINT INTEGRATED GROUND DEVELOPMENT ENGINEERING AND MANAGEMENT
(U) UGA GROUND DEVELOPMENT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Unified Ground Architecture (UGA) Ground Development project develops and maintains capabilities that enable planning, scheduling, and resource control of GEOINT and SIGINT collection, processing, and information sharing systems. These systems provide a key interface with the mission partners (NGA and NSA) to receive their overhead collection requirements, build joint collection strategies, and assess mission performance.

(U) Resources in this project will:

- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//~~ [redacted]
- ~~(S//~~ [redacted]
- ~~(S//~~ [redacted]

(U) GEOINT/SIGINT INTEGRATED GROUND DEVELOPMENT ENGINEERING AND MANAGEMENT
(U) UGA PROCESSING DEVELOPMENT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

~~(S//SI/TK)~~ [redacted]

(U) In addition, this project:

- (U) Provides multi-INT initiatives that emphasize rapid and flexible technology insertion to quickly support operational users.
- (U) Supports developmental priorities necessary to respond to NRO's IC strategic and tactical user needs.

- ~~(S//TK)~~ [redacted]

(U) This UGA project supports four core mission segments: SIGINT Processing, GEOINT Processing, Multi-INT Processing, and ONIR Developments.

(U) The SIGINT Processing mission segment provides:

- ~~(S//TK)~~ [redacted]
- ~~(S//TK)~~ [redacted]

(U) Resources in this segment will:

- ~~(S//TK//NF)~~ [redacted]
- ~~(S//~~ [redacted]

- (U) Transform information management across the architecture to enable a single user query to return a streamlined and simplified inventory of all overhead information available on a topic.
- (U) Enable increased analyst productivity and enhance response time by reducing the search time for relevant data and information.
- (U) Achieve reduction of the total collection requirements requested by providing needed data which is already available in the inventory.
- (U) Establish metadata based information environment and begin integration needed to provide a single, enterprise-wide cross domain information sharing and routing service extensible mark-up language based transport layer.

(U) Budget Changes FY 2007 – FY 2009

UGA Enterprise Development
Budget Highlights by Appropriation Account
FY 2007 – FY 2009
This Display is ~~SECRET//TALENT KEYHOLE//NOFORN~~

FY 07	FY 08	FY 09
[redacted]		

(U) All civilian personnel dollars were incorporated in the Personnel EC in FY 2007 and the Enterprise Management EC in FY 2008 and FY 2009.
(U) MilPers funding is within the applicable military department budget.
(U) CIAP positions are detailed to the NRO but authorized and budgeted within the CIAP.

(U) ENTERPRISE IT SYSTEMS
(U) CONNECTIVITY

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Connectivity project provides resources to develop, acquire, deliver, operate, and maintain the NRO's enterprise information systems and terrestrial communication networks. These information systems and networks support the NRO's mission to provide global communication services for the NRO, IC mission partners, and the DoD.

(U//~~FOUO~~) In FY 2009, the enterprise information systems portion of this project will provide resources to continue to upgrade the management information systems, message handling capabilities, and information assurance capabilities that are currently deployed. This project will also provide [redacted]

~~(S//TK//NF)~~ [redacted]

(S//TK//NF) [redacted]

(U) ENTERPRISE IT SYSTEMS
(U) ENTERPRISE ARCHITECTURE & PLANNING

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Enterprise Architecture and Planning project provides resources to support the secure and effective management of NRO IT resources and the IT workforce. The CIO advises the Director, NRO and NRO senior managers on all IT-related matters. The CIO develops NRO IT strategy and policies that incorporate National, IC, Federal, and DoD guidance into the NRO enterprise IT architecture. The CIO has a mandate to develop and implement an NRO Information Resources Management (IRM)/Capital Planning and Investment Control (CPIC) process to govern how the NRO evaluates, selects, acquires, controls, manages, operates, and maintains IT.

(U) ENTERPRISE IT SYSTEMS
(U) INFORMATION ASSURANCE

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Information Assurance (IA) project funds operational and programmatic activities designed to secure the NRO information enterprise. This includes oversight and support for Certification & Accreditations, IA vulnerability alert monitoring, enterprise perimeter security, information systems security engineering, red teaming for network vulnerability discovery, and enterprise auditing.

(U) RESEARCH & TECHNOLOGY
(U) BASIC RESEARCH

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Basic Research project provides funding for new and innovative sources and methods through the Director's Innovation Initiative (DII), the Innovative Solutions Initiative (ISI), and white papers proposed by industry, academia, other government organizations, and laboratories.

(U) The DII solicitation provides unclassified access to revolutionary R&D concepts and provides a risk-tolerant environment to invest in cutting edge technologies and high-payoff concepts relevant to the NRO's mission. Examples include investigating tunable SIGINT filter technologies, developing faster and more efficient spacecraft maneuvering algorithms, and using carbon nanotube-based fabrics in integrated circuits to reduce circuit size without increasing power. Developers, both traditionally and non-traditionally associated with the NRO, are provided the opportunity to participate in building the NRO of the 21st century.

~~(S//TK//~~ [redacted]

(U) RESEARCH & TECHNOLOGY
(U) APPLIED RESEARCH

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Applied Research project funds the NRO's advanced research and development (AR&D) activities which enable evolutionary and revolutionary capability improvements to current and future GEOINT, SIGINT, communications, and ground systems. AR&D efforts funded by this project are focused on rapidly developing the technologies to enable the following six capabilities:

- (U) Reconnaissance: Enhance collection to enable rapid location of suspected targets over wide areas, increasing effective persistence and automated search.
- (U) Surveillance of Known Threats: Use new sources and methods to improve our ability to monitor the status of known threats and areas of interest.
- (U) Detect Radio Frequency (RF) Sources: Increase our ability to detect low power RF sources over very wide areas with greater sensitivity.
- (U) Information On-Demand: Provide net-centric interconnectivity and high bandwidth to ensure information is available anywhere on demand.
- (U) Value-Added Information: Deliver value-added information by integrating and processing products from various collection systems.
- (U) Cross-cutting Technologies: Develop innovative and adaptive capabilities to meet global challenges.

(U) AR&D efforts under development within this project can be further aligned to the principal mission area supported:

- (U) GEOINT Technology.
- (U) SIGINT Technology.
- (U) Communications Technology.
- (U) Crosscutting Technology.

(U) Examples of specific technologies for each mission area include but are not limited to:

(U) GEOINT Technology

- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK//~~ [redacted]

- ~~(S//TK/~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]

(U) SIGINT Technology

- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S/~~ [redacted]
- ~~(S/~~ [redacted]

(U) Communications Technology

- ~~(S//TK/~~ [redacted]
- ~~(S//SI//TK/~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK/~~ [redacted]

(U) Crosscutting Technology

- (U) Carbon nanotube (CNT) memory/logic, power cables, and structural applications.
- (U) Radiation hardened analog, mixed signal, and digital microelectronics.
- (U) Next generation high efficiency solar cells.
- (U) Third generation long duration CNT lithium ion batteries.
- (U) Advances in thermal management for both payload and computer chips.
- (U) Advanced power electronics.
- (U) Multi-INT ground processing technologies.
- (U) Advanced Futures Lab ground processing and data fusion technologies.
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S/~~ [redacted]
- (U) Emerging opportunities for technology investment.

(U) RESEARCH & TECHNOLOGY
(U) ADVANCED TECHNOLOGY DEVELOPMENT

[redacted]

This Exhibit is SECRET//NOFORN

Totals may not add due to rounding

(U) Description

(U) The Advanced Technology Development project demonstrates the utility of new sources and methods to enhance collection capabilities and deliver timely actionable intelligence. The NRO accomplishes this through collaboration between Advanced Systems & Technology Directorate (AS&T) technology teams to determine the best candidates for demonstration of new concepts and technologies.

(S//TK//[redacted]

- (U) Horizon to horizon coverage.
- (S//TK//[redacted]
- (U) Cross mission/precision geolocation.
- (S//TK//[redacted]
- (S//TK//[redacted]

(S//TK//[redacted]

(U) ENTERPRISE MANAGEMENT
(U) ACQUISITION MANAGEMENT

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U//~~FOUO~~) The Acquisition Management project includes acquisition support resources for the IMINT, SIGINT, and Communications (COMM) Directorates. Typical acquisition support activities in this project include travel, training, awards, front office operations, financial management, security, and miscellaneous program support.

(U//~~FOUO~~) In addition to Directorate acquisition support, this project also includes NRO Corporate Systems Integration and Engineering (SI&E) activities. Resources for SI&E provide support for:

- (U//~~FOUO~~) Providing oversight and management of NRO corporate-level systems engineering processes.
- (U//~~FOUO~~) Developing and managing an Integrated NRO Architecture to produce new and innovative solutions that leverage Mission Partner efforts and build upon multi-INT information.
- (U//~~FOUO~~) Implementing effective NRO-level acquisition, engineering, mission assurance, and industrial base policies, processes, and initiatives.
- (U//~~FOUO~~) Informing and providing the technical basis for enterprise-level programmatic decisions.
- (U//~~FOUO~~) Raising the level of systems engineering and program management expertise across the NRO.
- (U//~~FOUO~~) Forming the set of cross-agency mission integration activities which evolve the separate NRP, NGP, CCP, and GDIP programs in accordance with the DNI's priorities.

(U) ENTERPRISE MANAGEMENT
(U) EDUCATION & TRAINING

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Education and Training project provides resources for NRO and IC corporate initiatives to improve workforce performance through training courses, career and professional development programs, retention initiatives, and exploitation of joint IC training opportunities.

(U) ENTERPRISE MANAGEMENT
(U) FINANCE

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Finance project is responsible for NRO funds execution in accordance with Generally Accepted Accounting Principles, timely and accurate processing of invoices, and preparation of external financial reports and statements per OMB regulations. In addition, Finance provides operation, maintenance, and enhancement support for NRO financial systems including the Integrated Financial Management System, Budget Analysis Reporting Tool, and the Execution Tool.

(U) ENTERPRISE MANAGEMENT
(U) HEADQUARTERS MANAGEMENT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Headquarters Management project provides executive level management and staff support for developing and issuing guidance, reviewing and evaluating program performance, allocating and distributing resources, and conducting intermediate- and long-range planning, programming and budgeting. This project includes diverse management functions such as support to the Director's office, General Counsel, Equal Employment and Diversity Management, Inspector General, and Business Plans and Operations—Contracts, Acquisition Center of Excellence, Cost Group, Policy, Strategic Communications, Center for the Study of National Reconnaissance, and Resource Management.

(U) ENTERPRISE MANAGEMENT
(U) HUMAN RESOURCES

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Human Resources project provides resources for personal services for NRO civilian personnel and human resources (HR) support and initiatives to improve recruitment, career development, recognition, retention, and management of the NRO's diverse scientific and acquisition workforce. This project also includes:

- (U) Resources to reimburse the CIA for non-personal support costs, travel costs for retirees and new employees, and other non-personal services costs.
- ~~(S//NF)~~ [redacted]
- (U) Resources for the Employee Assistance Program (EAP), which provides centralized in-house, confidential mental health counseling and referral services; provides consultation services to managers and supervisors; and provides workshops and facilitates support groups on relevant mental health issues.

(U//FOUO) ~~(U)~~ With the exception of the [redacted] within the HR project, positions are distributed among the other ECs within the NRP.

(U) ENTERPRISE MANAGEMENT
(U) NRO MISSION SUPPORT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U//~~FOUO~~) The NRO Mission Support (NMS) project supports the Director, NRO's *Strategic Framework*, published in April 2006, on building an integrated overhead architecture responsive to current and future needs of the IC and DoD. The NMS project is charged with ensuring effective NRO support to external users that includes understanding their information needs, educating them on current collection capabilities, and developing new capabilities to solve their operational and intelligence problems. More specifically, the NMS project:

- ~~(S/~~ [redacted]
- ~~(S/~~ [redacted]
- (U//~~FOUO~~) Provides special technical operations support to the Joint Function Component Command for Space (JCC-SPACE) and COCOMs with integrated planning for operational and compartmented activities.
- ~~(S/~~ [redacted]
- ~~(S/~~ [redacted]
- (U//~~FOUO~~) Provides command and control capabilities for NRO leadership during contingency operations and exercises.
- (U//~~FOUO~~) Develops new user applications that maximize the utility of national system capabilities and data through collaboration across the NRO, government, industry, and academic communities.
- (U//~~FOUO~~) Enhances engagement with tactical users to fully understand their real-time information needs. Provide users access to real-time national systems data derived from overhead systems, thereby facilitating mission success and averting casualties.
- ~~(S/~~ [redacted]

[redacted]

• (U//~~FOUO~~) Provides NRO field representatives to US government agencies and COCOMs to facilitate the exchange of information, requirements and access to collection capabilities.

• (U) Provides users with innovative, technical and multidiscipline solutions to priority operational and intelligence problems.

• (U) Provides advanced technology prototyping to meet rapid response requirements.

• ~~(S/~~ [redacted]

• ~~(S/~~ [redacted]

(U) Budget Changes FY 2007 – FY 2009

NRO Mission Support
Budget Highlights by Appropriation Account
FY 2007 – FY 2009
This Display is ~~SECRET//NOFORN~~

FY 07	FY 08	FY 09
[redacted]		

(U) All civilian personnel dollars were incorporated in the Personnel EC in FY 2007 and the Enterprise Management EC in FY 2008 and FY 2009.
(U) MilPers funding is within the applicable military department budget.
(U) CIAP positions are detailed to the NRO but authorized and budgeted within the CIAP.

(U) ENTERPRISE MANAGEMENT
(U) SECURITY

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U//~~FOUO~~) The Security project provides common security support and counterintelligence services to the entire NRO government and industry population. These services include developing and distributing security policy guidance; identifying, analyzing, and disseminating information on terrorist and foreign intelligence service threats; planning long-range security initiatives; security clearance investigating; performing polygraph examinations, adjudicating, and granting NRO accesses; providing physical security of all facilities and personnel; inspecting and accrediting secure facilities and information systems (IS); and providing security training and awareness products to NRO employees. [redacted]

(U) ENTERPRISE MANAGEMENT
(U//FOUO) SPECTRUM MANAGEMENT

[redacted]

This Exhibit is SECRET//TALENT KEYHOLE//NOFORN

Totals may not add due to rounding

(U) Description

~~(S//TK~~ [redacted]

- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]

- (U//~~FOUO~~) Provide guidance to evolving NRO program offices on spectrum matters.
- (U//~~FOUO~~) Provide immediate, emergency support in response to [redacted] in operational scenarios.
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]

(U) ENTERPRISE MANAGEMENT
(U) SYSTEM ENGINEERING: COMMUNICATIONS

[redacted]

This Exhibit is ~~SECRET//TALENT KEYHOLE//NOFORN~~

Totals may not add due to rounding

(U) Description

(U//~~FOUO~~) This project funds systems engineering and architecture studies, technology assessment, modeling and analysis, risk management, systems integration, and customer requirements and engineering controls processes necessary to plan for and manage the NRO communications enterprise within a service management-driven infrastructure to ensure end-to-end service delivery and customer satisfaction. Specifically this project will:

- (U) Monitor enterprise IT systems and space communications activities for efficient compliance with the allocated COMM architectural requirements.
- (U) Integrate current and future NRO communications architecture initiatives into the broader Integrated NRO Architecture and the overarching National Intelligence Collection Architecture.
- (U) Support a customer needs assessment program to collect our customer's strategic mission and mission support needs to effectively align COMM IT services to meet customer's future mission technology needs.
- (U//~~FOUO~~) Support studies to identify/integrate investments necessary for NRO communications COOP and survivability.
- (U//~~FOUO~~) Interact with other NRO activities and IC partners to ensure end-to-end continuity and security of essential functions in primary and reconstituted modes in order to ensure access to critical communications capabilities across IC agencies and customers.
- (U//~~FOUO~~) Architect, plan, sustain, and improve information assurance capabilities needed to enable information and operational network security while protecting against denial of service attacks and the compromise of sensitive and compartmented information.
- (U) Coordinate and integrate schedules with other NRO directorates and offices and IC partners to support service delivery.
- (U) Collect and evaluate performance metrics to enable COMM to rapidly identify corrective actions for potential NRO network problems and to improve process performance.
- (U) Perform pre-deployment modeling and simulation of network changes by collecting and analyze live network data at the services level.
- (U//~~FOUO~~) Utilize Independent Test and Evaluation Center to perform pre-deployment independent verification/validation testing and perform test anomaly resolution to support operational networks.
- (U) Employ Service Management framework and best practices to develop, manage, and deliver IT services in an efficient and effective manner.

- (U) Perform cross-directorate systems engineering, architecture, business planning, and coordination between NRO and IC to ensure compatibility and commonality.
- (U) Support customer requirements, baseline configuration control, FISMA, and Management Control Program to ensure processes include the necessary internal controls to mitigate risk of fraud, waste, and mismanagement of resources.

(U) Budget Changes FY 2007 – FY 2009

System Engineering: Communications
Budget Highlights by Appropriation Account
FY 2007 – FY 2009
This Display is ~~SECRET//TALENT KEYHOLE//NOFORN~~

FY 07	FY 08	FY 09
[redacted]		

(U) All civilian personnel dollars were incorporated in the Personnel EC in FY 2007 and the Enterprise Management EC in FY 2008 and FY 2009.
(U) MilPers funding is within the applicable military department budget.
(U) CIAP positions are detailed to the NRO but authorized and budgeted within the CIAP.

(U) ENTERPRISE MANAGEMENT
(U) SYSTEMS ENGINEERING: GEOINT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Systems Engineering: GEOINT project provides systems integration and architecture systems engineering activities across the Imagery Systems Acquisition and Operations Directorate (IMINT). Specific activities include:

- (U) Independent assessments and recommendations provided to the IMINT Director.
- (U) Enterprise-level requirements management, architecture management, risk management/mitigation, schedule management, and configuration management.
- (U) Enterprise-level trade studies supporting requirements and architecture development and interface definition.
- (U) Enterprise-level modeling and simulation.
- (U) End-to-end integration and test management including readiness assessments for the transition and deployment of new capabilities to operations.
- (U) Studies and analyses addressing protection and survivability.
- (U) Preparation for and execution of acquisition milestone decisions for IMINT systems.
- (U) Enterprise-level strategic and investment planning, including technology investment.
- (U) Pre-acquisition architecture support for new programs and candidate concepts, including requirement definition and concept of operations studies.
- (U) Enterprise-level ground processing engineering for improving infrastructure and algorithms to support development of advanced imagery products, facilitating value-added upstream processing capabilities, and developing image formation capabilities of future systems.
- (U) Test concept and schedule development for acquisition initiatives, test planning and execution, to include verification of requirements and validation of operational concepts and interoperability.
- (U) Full lifecycle readiness planning and execution, to include definition of acquisition readiness schedules and milestones, data reporting requirements and supporting engineering assessments.
- (U) Develop success criteria for determination of initial operational capabilities and full operational capabilities for the enterprise and the system/sensor level.
- (U) Management of a series of collaborative forums for addressing and mitigating near- and long-term Enterprise Architecture risk or issues between NGA and NRO/IMINT.

(U) ENTERPRISE MANAGEMENT
(U) SYSTEMS ENGINEERING: SIGINT

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

~~(S//SI/TK/~~ [redacted]

(U) In addition, the Systems Engineering: SIGINT project:

- (U) Provides architectural-level systems engineering within the SIGINT Directorate to effectively integrate IOSA.
- ~~(S//SI/TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- (U) Defines the overhead SIGINT Strategic Improvement Roadmap, which identifies near and far-term enhancements for IOSA and post-IOSA space, ground, and communication technologies.
- (U) Collaborates with NSA's Office of Overhead, other NRO organizations, and other IC organizations to define the future architecture on behalf of the SIGINT Directorate.
- (U) Provides the technical analysis and represents the NRO for overhead SIGINT related IC studies.

(U) The Systems Engineering: SIGINT project provides funding for CAAS and FFRDC support, as well as for personnel travel, mission training, and awards recognition.

(U) FACILITIES AND LOGISTICS
(U) FACILITIES

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(S) (U) The Facilities project provides resources to support O&M of NRO Headquarters (HQ) facilities, provides facility infrastructure policy and guidance in support of all NRO and IC components, acquires and maintains essential leased facilities, and supports [redacted] NRO construction projects.

(U) The major objectives of the Facilities project are to:

- (U) Operate and maintain NRO HQ facilities and grounds.
- (S) (U) Support NRO [redacted] facility renovations, modifications, retrofit work, upgrades of facility operations systems and equipment (recapitalization), facility engineering, facility communications/security systems, logistics/warehousing operations, property management, compliance with safety and environmental regulations, and acquisition of supplies and equipment to support NRO O&M and mission activities, to include partnering with other IC components.
- ~~(S//NF)~~ [redacted]
- (U) Provide timely facility infrastructure support, standards, policy and guidance (to include power and cooling expertise) to the NRO.
- (S) (U) Support [redacted] NRO major and minor construction projects and recapitalization efforts.
- (S) (U) Begin a Facilities Management approach that encompasses NRO facilities [redacted] to include strategic planning, standards and policy.

(U) FACILITIES AND LOGISTICS
(U) LOGISTICS

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

Totals may not add due to rounding

(U) Description

(U) The Logistics project provides resources for diverse enterprise level Support Services and Transportation Management services that enable the NRO to perform its mission.

(U) Support Services activities include:

- (U) System development and integration, automation upgrades, O&M, and configuration management of administrative business services.
- (U) Life cycle information and records management, including declassification responsibilities under Executive Orders 12958 and 13142.
- (U) NRO environmental, safety, and system safety support; Comprehensive Emergency Management Program, Fire Protection Program; multimedia and production services; full-service government travel and accounting; NRO cover and liaison services; library and technical research services; management control, knowledge management, process reengineering; and fitness and medical support.
- (U) Reception and Representation funds.

(U) Transportation Management activities include:

- ~~(S/~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- (U) Centralized NRO vehicle program management, including vehicle leases and procurement.

~~(S//~~ [redacted]

(U) Acquisition Summary

~~(S//TK//~~ [redacted]

(U) Independent Cost Estimate

~~(S//~~ [redacted]

(U) Major Contractors

- (U) Lockheed Martin, Sunnyvale, CA: Prime contractor.
- (U) Northrop Grumman Linthicum, MD: Transducer and data processor subsystem.
- (U) ITT Rochester, NY: Optical subsystem.
- (U) Northrop Grumman Redondo Beach, CA: Wideband communications subsystem.
- ~~(S//TK//~~ [redacted]

~~(S//~~ [redacted]

(U) Acquisition Summary

~~(S//TK//~~ [redacted]

(U) Independent Cost Estimate

~~(U)~~ The DNI CAIG ICE was [redacted] To be consistent with the scope of the DNI CAIG ICE, the budget shown in the MSA table only includes space acquisition, ground command and control, other government costs, system integration and launch costs. [redacted]

(U) Major Contractors

- (U) Lockheed Martin, Sunnyvale, CA: Prime contractor.
- (U) Northrop Grumman Linthicum, MD: Transducer and data processor subsystem.
- (U) ITT Rochester, NY: Optical subsystem.
- (U) Northrop Grumman Redondo Beach, CA: Wideband communications subsystem.
- ~~(S//TK//~~ [redacted]

~~(S//TK)~~ [redacted]

(U) Acquisition Summary

~~(S//TK//NF)~~ [redacted]

(U) Independent Cost Estimate

~~(S//TK//NF)~~ [redacted]

~~(S//TK//NF)~~ [redacted]

(U) Major Contractors

(U//~~FOUO~~) Boeing Corporation, El Segundo, California: Prime contractor for the [redacted]

(U) PACIFIC COMMUNICATIONS TERMINAL

(U) Acquisition Summary

~~(S//TK//NF)~~ [redacted]

(U) Independent Cost Estimate

~~(S//TK)~~ [redacted]

(U) Major Contractors

- (U) Raytheon Corporation; Reston, VA: Mission Integration and Development (MIND) prime contractor.
- (U) Lockheed-Martin; San Jose, CA and Valley Forge, PA: MIND major subcontractor.

(U) DAR RECAP

(U) Acquisition Summary

~~(S//TK//~~ [redacted]

(U) Independent Cost Estimate

(U) The NCG conducted a budget sufficiency review (BSR) of the program office estimate for this budget.

(U) Major Contractors

- (U) Raytheon, Reston, VA and Garland, TX: Prime contractor.
- (U) Lockheed Martin, Valley Forge, Pa and San Jose, CA: Subcontractor partner.

(U) EMITTER MAPPING PROGRAM 1.0

(U) Acquisition Summary

~~(S//TK)~~ [redacted]

(U) Independent Cost Estimate

~~(S//TK)~~ [redacted]

[redacted]

(U) Major Contractors

- (U) Lockheed Martin, Chantilly, VA: Ground systems integrator.
- (U) Northrop Grumman/TASC, Chantilly, VA: Systems engineering and technical assistance.
- (U) Northrop Grumman, Aurora, CO: Emitter mapping development, maintenance, and integration.
- (U) Raytheon, Garland, TX: Data acquisition and data management.
- (U) Scitor, Aurora, CO: Rapid prototyping and development.

(U) MISSION SERVICES AND MISSION MANAGEMENT 1.0

(U) Acquisition Summary

~~(S//TK//~~ [redacted]

(U) Independent Cost Estimate

(U//~~FOUO~~) Since Mission Services and Mission Management 1.0 reflects a series of projects presently on-contract, the NCG conducted a BSR in September 2007. The NCG conducted ICE for every SIGINT acquisition from FY 2002 to 2007, which included incremental Ground element costs as part of their estimates. [redacted]

(U) Major Contractors

- (U) BIT Systems, Herndon, VA: Collection management, mission assessment and performance assessment development.
- (U) Lockheed Martin, Chantilly, VA: Ground systems integrator.
- (U) Northrop Grumman/TASC, Chantilly, VA: Systems engineering and technical assistance.
- (U) Impact Science, Nashua, NH: Collection storage development.
- (U) Lockheed Martin, San Jose, CA: Mission Management developer.
- (U) Lockheed Martin, San Jose, CA and Hanover, MD: Mission Management developer and maintenance.
- (U) Raytheon, Garland, TX: Real-time control development.
- (U) Raytheon, State College, PA: Messaging development and site deployment support.

(U) SIGNALS COPY AND EXPLOITATION 1.0

(U) Acquisition Summary

~~(S//TK//~~

[redacted]

(U) Independent Cost Estimate

~~(S//TK//~~

[redacted]

(U) Major Contractors

- (U) BIT Systems, Herndon, VA. FISINT processing development.
- (U) Lockheed Martin, Chantilly, VA: Ground systems integrator.
- (U) Northrop Grumman/TASC, Chantilly, VA: Systems engineering and technical assistance.
- (U) Raytheon, State College, PA: Strategic indications and warning processing development.
- (U) Raytheon, Aurora, CO: PROFORMA processing development.
- (U) Rincon Research, Tucson, AZ: Manage common software baseline and signal processing components.
- (U) SAIC, Columbia, MD: Applied technology development.
- (U) Zeta Associates, Fairfax, VA: Signals copy and exploitation development and integrator.

(U) FUNCTIONAL AVAILABILITY AND SATELLITE LIFE ESTIMATES

(U) Background

(U) In 1997, the Mean Mission Duration (MMD) Panel recommended the development of a standardized process for determining satellite life and constellation replenishment criteria based on mission satisfaction. In response, the NRO developed the Functional Availability (FA) process, which employs a combination of probability theory, manufacturer's wear-out data, on-orbit experience, and constellation mission satisfaction.

(U) Functional Availability

(U) Functional Availability is the probability that a *constellation of satellites* will meet specific mission requirements at a future point in time. In addition to estimates for wear-out and random failures of satellite components, FA depends on assumptions regarding future events such as the replenishment schedule. Different measures of FA may be defined for a constellation, corresponding to different missions of the same constellation.

(U) NRO program offices initiate the FA methodology at the piece parts reliability level up through the component, subsystem, system, and satellite, to the constellation level. The data is displayed as a curve that provides FA as a function of time.

(U) **Reliability.** A satellite's reliability is the probability that it will remain operable and mission worthy at some future point in time, given everything known about its current status and future operation. Reliability functions provide this probability as a function of time, and usually decline continuously. Reliability functions are constructed for key components that can be aggregated, enabling the construction of mathematical reliability models, as with FA, for larger systems.

(U) **Life Estimates.** A satellite's life estimate is derived from its reliability function. The satellite's mean life estimate (MLE), given in years, represents the expected average life. Typically, a satellite has about a 50 percent chance of operating beyond its current MLE. Decisionmakers should not use MLE as the sole basis for satellite replenishment or to justify conclusions about constellation capability.

(U) **Risk Management.** FA is primarily a risk management tool for senior leadership in the NRO. FA charts indicate constellation mission satisfaction over time and illustrate the mission impact of launch failures, schedule changes, and on-orbit failures. Ideally, the NRO constellation replenishment plan should ensure that FA levels remain above minimum thresholds. However, current affordability considerations do not permit optimal satellite acquisition and launch phasing.

(U) SIGINT HIGH FUNCTIONAL AVAILABILITY (COMEX)

(U) SIGINT COMEX Functional Availability Mission Statement

~~(S//TK//~~ [redacted]

(U) IOSA COMEX Success Criteria

~~(S//TK//~~ [redacted]

(U) Changes from FY 2008 CBJB

(U) The following actions and adjustments have changed the COMEX FA status since the FY 2008 CBJB:

- (U) Spacecraft models were updated for on-orbit status changes and revised end-of-life predictions.
- ~~(S//TK//~~ [redacted]
- (U) Slight changes in the FA curve beyond FY 2008 are caused by:
  - ~~(S//TK//~~ [redacted]
  - ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]
- ~~(S//TK//~~ [redacted]

(U) COMEX Vehicle Highlights

(U) There have been no significant changes to the on-orbit constellation impacting COMEX FA.

(U) SIGINT HIGH ALTITUDE FOCUSED-AREA SIGINT MAPPING (FASM) FUNCTIONAL AVAILABILITY

(U) SIGINT FASM Functional Availability Mission Statement:

~~(S//TK/~~ [redacted]

~~(S//TK/~~ [redacted]

(U) IOSA FASM Success Criteria

~~(S//TK/~~ [redacted]

- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]

~~(S//TK/~~ [redacted]

(U) Changes from FY 2008 CBJB

(U) The following actions and adjustments have changed the FASM FA status since the FY 2008 CBJB:

- (U) Spacecraft models were updated for on-orbit status changes and revised end-of-life predictions.
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- (S//TK/ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]

(U) FASM Vehicle Highlights

(U) There have been no significant changes to the on-orbit constellation impacting FASM FA.

(U) LOW EARTH ORBIT SIGINT FUNCTIONAL AVAILABILITY

(U) SIGINT LEO Functional Availability Mission Statement

~~(S//TK/~~ [redacted]

(U) IOSA LEO Success Criteria

~~(S//TK/~~ [redacted]

(U) Change from FY 2008 CBJB

~~(S//TK/~~ [redacted]

~~(S//TK/~~ [redacted]

(U) FY 2009 CBJB Functional Availability values are also affected by decreased launch reliability numbers for the EELV MLV/Centaur from OSL.

~~(S//TK/~~ [redacted]

(U) SIGINT LEO Vehicle Highlights

~~(S//TK/~~ [redacted]

(U) PROGRAM ASSESSMENT RATING TOOL (PART) SUMMARY

(U) Program/Activity Evaluated in 2007

(U) Program: National Reconnaissance Program and NRO Military Intelligence Program

(U) Advanced Systems and Technology (AS&T) Program

(U) Activity Summary/Description

(U) Advanced Systems and Technology (AS&T) conceives and develops technologies and demonstrates new systems to increase actionable intelligence in support of the NRO mission and strategic goals. NRO AS&T's strategic vision, derived from the NRO Strategic Framework, is to accelerate the pace of innovative technologies, reduce the time to market, and develop new sources and methods.

(U) Activity Funding Level ($M)[1]

[redacted]

This Exhibit is ~~SECRET//NOFORN~~

[1] ~~(S//TK//NF)~~ [redacted]

(U) Rating: Moderately Effective

Section	Section Score
Program Purpose and Design	100%
Strategic Planning	91%
Program Management	89%
Program Results/Accountability	67%
Overall Weighted Score	**80%**

This Exhibit is UNCLASSIFIED

[redacted]

This Exhibit is SECRET//TALENT KEYHOLE

[redacted]

This Exhibit is SECRET//TALENT KEYHOLE

[1] (U//FOUO) [redacted]

(U) Appropriation Type

(U) Capital Assets and Service Acquisition

(U) Research and Development

(U) Findings

(U//FOUO) Finding 1: The purpose of the NRO AS&T Program is clear and AS&T leadership has ambitious corporate goals that are aligned with the Programs' mandate. The AS&T Program addresses current and relevant technology and intelligence needs. It is not duplicative of other public or private sector efforts and its outputs reach the intended beneficiaries. It has no performance limiting design flaws.

(TS//TK//NF) [redacted]

(U//FOUO) Finding 3: The Program is generally well managed, and the leadership is proactive in addressing any identified problems.

(S) [redacted]

(S) [redacted]

(U//~~FOUO~~) Finding 6: Program partners commit to the goals of the AS&T Program. The Program collaborates and coordinates well with related Programs, and conducts intensive coordination efforts with other federal space and science and technology agencies. For example, AS&T's practice of assigning personnel to customer organizations to assist with technology transitions demonstrates a clear commitment to program success. AS&T would benefit from a more structured mechanism that documents feedback from customers.

(U//~~FOUO~~) Finding 7: Timely, quality independent reviews of the bulk of the AS&T Program are available and are largely positive. [redacted]

(U//~~FOUO~~) Finding 8: The AS&T Program evaluates the benefits of alternative investments, uses a prioritization process to guide budget requests, and uses management processes to maintain Program quality.

(U) Follow-Up Actions (Improvement Plan)

(U) As a result of the PART evaluation, the NRO and the AS&T Program are initiating the following actions to improve the performance of the Program.

(U//~~FOUO~~) Follow-Up Action 1: [redacted]

(U//~~FOUO~~) Follow-Up Action 2: Clearly documenting Strategy, Technology, and Engineering Panel findings.

(U//~~FOUO~~) Follow-up Action 3: Establishing a more structured mechanism that documents feedback from customers.

(U//~~FOUO~~) Follow-Up Action 4: Reviewing measures that have moving averages to determine if there is a time period that is more meaningful.

(U//~~FOUO~~) Follow-Up Action 5: [redacted]

(U//~~FOUO~~) [redacted]

(U) Program/Activity Evaluated in 2006

(U) Program: National Reconnaissance Program and NRO Military Intelligence Program

(U) Communications (COMM) Program

(U) Activity Summary/Description

(U) The NRO Communications Program provides the telecommunications network (space and ground) system and enterprise IT services necessary to support the NRO's development, launch, and operation of space reconnaissance systems and other NRO intelligence-related activities. The Program evaluated in the PART includes the activities of the NRO Communications Systems Acquisition and Operations Directorate (COMM) and NRO's joint responsibilities and interfaces with mission partners and oversight/policy management organizations.

(U) Activity Funding Level ($M) [1]

[redacted]

This Exhibit is ~~SECRET//TALENT KEYHOLE//NOFORN~~

[1] ~~(S//TK//NF)~~ [redacted]

(U) Rating: Moderately Effective

[redacted]

This Exhibit is ~~SECRET//TALENT KEYHOLE~~

(U) Appropriation Type

(U) Capital Assets and Service Acquisition

(U) Findings

(U) Finding 1: The purpose of the NRO COMM Program is clear. It addresses current and relevant needs for communication and IT services; it is not duplicative of other public or private sector efforts; and its outputs reach the intended beneficiaries.

[redacted]

(U//~~FOUO~~) Finding 3: The COMM Program uses short- and long-term outcome and efficiency measures and targets for operational elements and output measures and targets for acquisition elements of the Program. In addition, the Program is developing measures of progress toward strategic plan objectives, annual schedule for meeting strategic plan objectives, and alignment of strategic plans, budgets, and schedules.

(U//~~FOUO~~) Finding 4: The COMM Program has procedures in place to measure efficiency and demonstrates improved cost effectiveness in achieving Program goals each year. It has established a clear measure of cost effectiveness: [redacted]

(U//~~FOUO~~) Finding 5: The space and terrestrial elements of the Program collaborate and coordinate well with related programs, particularly in day-to-day operations.

(U//~~FOUO~~) Finding 6: Timely, quality independent reviews of the bulk of the COMM Program are available. Many of the reviews indicate that the Program is performing its mission very well and provides excellent customer services; others identify issues that could affect, or have affected, customer satisfaction, network security, or other outcomes. [redacted]

[redacted]

(U//~~FOUO~~) Finding 8: The NRO COMM Program clearly defines deliverables and regularly collects and uses performance information. However, the IC needs to improve budget presentation such that resource needs are well understood and more clearly linked to performance.

(U//~~FOUO~~) Finding 9: [redacted]

~~(S//TK/~~ [redacted]

(U//~~FOUO~~) Finding 11: As of the FY 2006 PART evaluation, the COMM Program met most of its long-term and annual goals.

- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- ~~(S//TK/~~ [redacted]
- (U//~~FOUO~~) The Program is meeting annual goals and is on track to meet the long-term targets for Terrestrial Network Capacity.
- (U//~~FOUO~~) The Program is demonstrating efficiencies in achieving Program goals each year.

(U//~~FOUO~~) Finding 12: NRO COMM has established the following additional measures, with baselines and targets, which are not reflected in the measures summary tables.

- ~~(S//TK/~~ [redacted]
- (U//~~FOUO~~) During FY 2004 - FY 2006, the COMM Program met its annual goals for Operational Availability for SPG activities. [redacted]
- (U//~~FOUO~~) The COMM Program gathers Patriot contract metrics on a monthly basis to determine contractor performance, and holds the contractor accountable for falling below minimum acceptable objectives.

(U) Follow-Up Actions (Improvement Plan)

(U) The COMM Program continues to implement the following actions to improve the performance of the Program.

~~(S//TK/~~ [redacted]

- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK/~~ [redacted]

[redacted]

(U//~~FOUO~~) Follow-Up Action 2: Developing and implementing methods to track and manage progress and performance on meeting goals and objectives established in strategic plans and business plans. Improving traceability between COMM-level strategic plans and higher-order plans at the NRO and DNI levels.

- (U//~~FOUO~~) (Year Began: 2006. *Completed*). COMM restructured its Strategic Management Process in late FY 2006 and early FY 2007 to strengthen tracking and management of progress in meeting the objectives established in its annual Strategic Plan. Objectives are aligned with the NRO Strategic Framework and the NIS. A Business Plan outlines how project work activities trace to budgets, objectives, master scheduled items, and architectural artifacts. COMM Senior Management reviews progress and performance against objectives on a quarterly basis.

(U//~~FOUO~~) Follow-Up Action 3: Improving traceability between customers needs, strategic plans, business/operating plans, requirements, architecture, and budgets. This includes improving processes to assure more timely updates of requirements and related planning documents (architectures, business plans, analyses of alternatives, etc.) reflect evolving user needs (e.g., next generation IMINT requirements).

- (U//~~FOUO~~) (Year Began: 2006. *Completed*). COMM restructured and updated its Integrated COMM Architecture and Requirement Document (ICARD) to capture capstone requirements, key functionality-based architectural artifacts from the approved NGCA, and emerging customer needs. COMM has integrated architecture and requirements efforts with its Strategic Management process.

(U//~~FOUO~~) Follow-Up Action 4: Ensuring clear documentation of approved waivers to published availability goals.

- ~~(S//TK/~~ [redacted]

[redacted]

(U//~~FOUO~~) Follow-Up Action 5: Improving coordination with stakeholders on programmatic decisions that affect communications system and service performance. [redacted]

- ~~(S//TK//NF)~~ [redacted]

~~(S//TK//NF)~~ [redacted]

- ~~(S//TK//NF)~~ [redacted]
- ~~(S//TK//NF)~~ [redacted]

(U//~~FOUO~~) Follow-up Action 7: Ensuring that acquisition baselines and performance are adequately and clearly documented in the BAAR, where BAARs are required, and that BAARs are updated in a timely manner.

- ~~(S//TK//NF)~~ [redacted]

(U//~~FOUO~~) Follow-Up Action 8: Addressing material weaknesses and reportable conditions identified in independent audits with a goal of regaining an unqualified opinion in the FY 2009 audit.

- ~~(U//FOUO)~~ [redacted]

(U) Follow-up Action 9: Using ICEs to help define program budgets.

- ~~(S//TK//NF)~~ [redacted]

~~(S//TK)~~ [redacted]

(U//~~FOUO~~) [New] Follow-Up Action 11: Establishing clear cost, schedule, and performance baselines that describe deliverables and functionality for the integrated COMM ground system within an overarching integrated ground architecture construct.

~~(S)~~ [redacted]

(U) RESOURCE EXHIBITS

(U) GLOSSARY

(U) AGI—Advanced Geospatial Intelligence.

(U) AGP—Advanced GEOINT Processing. Processing of advanced geospatial intelligence derived from imagery.

(S//TK)

(S//TK/

(U) AOCO—Airborne Overhead Cooperative Operations. System that uses near real-time air and space SIGINT tipping, collection and processing to geolocate and cross cue targets to imagery.

(U) AR&D—advanced research and development.

(S//TK)

(U) AS&T—Advanced Systems and Technology, NRO directorate.

(U) ASME—Automated Spectrum Monitoring Equipment.

(U) ATM—asynchronous transfer mode. A high-bandwidth method of transporting information designed to integrate the transport of all services on a single network.

(S//TK)

(U) BAAR—baseline agreement and acquisition report.

(U) BOL—beginning-of-life.

(S)

(U) BPO—Business Plans and Operations office.

(U) BSR—budget sufficiency review.

(U) C&C—command and control.

(U) CAAS—contracted advisory and assistance services. Services under contract by non-governmental sources to provide management and professional support; studies, analyses, and evaluations; or engineering and technical support.

(U) CAIG—Cost Analysis Improvement Group.

(S)(U)

(U) CCAFS—Cape Canaveral Air Force Station.

(U) CCS—constellation calibration services.

(S//TK/

(U) CDR—critical design review.

(U) CMA—collection management authority.

(U) CNT—carbon nanotube. A one-atom thick sheet of graphite rolled up into a seamless cylinder with diameter on the order of a nanometer.

(S)

(S//TK/

(U) COMINT—Communications Intelligence.

(U) COMM—NRO Communications Directorate.

(U) COMSAT—communications satellite.

(U) COMSEC—communications security. Hardware and firmware devices and accompanying software used to encrypt/decrypt data.

(S/[redacted]

(U) CS/CS—cross-site/cross-system. A term used in conjunction with the capability to manage multiple systems over various locations.

(U) CSB—common software baseline.

(U) CSPAR—Central Strategic Processing Analysis and Reporting.

(U) CSS—Central Security Services. Ran by NSA and formerly known as Regional Security Operations Centers (RSOC).

(S//TK)[redacted]

(S//TK)[redacted]

(U) DAR Recap—data acquisition and routing recapitalization.

(S//TK)[redacted]

(U) DCGS—Distributed Common Ground System.

(U) DIB—DCGS Integrated Backbone.

(U) DICES—Digital Integrated Communications Electronics System.

(U) DII—Director's Innovation Initiative. An AS&T program that transitions almost 50 percent of its unclassified advanced technology investigations to funded follow-on research efforts inside the NRO, the Intelligence Community, and the DoD, providing those communities with advanced technology concepts for future systems.

(U) DLA—Defense Logistics Agency.

(U) DMS—Defense Messaging System. A DoD and IC standards-based organizational messaging architecture scheduled to replace the Site Communications Processor system.

(U) E1—echelon 1. Immediate maintenance activities supporting operational systems.

(U) E2—echelon 2. Factory maintenance in support of ongoing operational systems.

(U) EA—Enterprise Architecture. Primary purpose of EA is to ensure that business strategy and IT investments are aligned. As such, EA allows traceability from the business strategy down to the underlying technology.

(U) EAAF—Enterprise Architecture Assessment Framework. Uses thirteen assessment criteria to evaluate the maturity and effectiveness of agency enterprise architecture programs.

(U) EC—expenditure center.

(S/[redacted]

(U//FOUO)[redacted]

(U) EELV—Evolved Expendable Launch Vehicle. The name for the family of launch vehicle, which replaced the Titan and Atlas (II and III) launch vehicles. The EELV vehicle family is comprised of multiple configurations of the Lockheed-Martin Atlas V and the Boeing Delta IV.

(S/[redacted]

(U) EKMS—Electronic Key Management System. Interoperable collection of systems developed to automate planning, ordering, generating, distributing, storing, filing, using, and destroying of electronic key and management of other types of COMSEC material.

(U) ELC—EELV Launch Capability contract.

(U) EMOC—Enterprise Management Operation Center. A 24-hour operational facility that monitors, defends, and controls the information enterprise for the NRO.

(U) EO—electro-optical.

(U) EPF—Eastern Processing Facility. Scheduled for completion in FY 2009, the EPF will be the primary NRO facility for processing and preparing spacecraft for launch from the Eastern Range.

(U) ERP—enterprise resource planning.

(U) ESD—earliest service date.

(U) FA—functional availability. A measure of system performance that incorporates both improved estimates of satellite life and addresses user requirements.

(U//~~FOUO~~) [redacted]

(U) FASM—Focused Area SIGINT Mapping. One of three FA curves used to describe the system performance of IOSA high altitude spacecraft.

~~(S//TK)~~ [redacted]

(U) FFRDC—Federally Funded Research and Development Center. A non-profit corporation, sponsored by the government, for the purpose of performing, analyzing, integrating, supporting, or managing engineering, research, or development activities.

(U) FISMA—Federal Information Security Management Act.

(U) FOC—full operational capability.

~~(TS//SI/~~ [redacted]

(U) FSR—final spacecraft review.

(U) Gbps—Gigabits per second (10^9 bits per second).

(U) GEO—geosynchronous orbit. An orbital regime at approximately 22,000 nautical miles characterized by its 24-hour orbital period which places an object in a stationary position relative to the Earth's rotation.

(U) GEOINT—Geospatial Intelligence.

~~(S/~~ [redacted]

(U) GMM—Ground Mission Manager.

(U) GOA—Government of Australia.

(U) GSB—Generation of Secret Bits.

(U) GSM—Global System for Mobile Communications or *Groupe Speciale Mobile*. A commercial digital telephone network standard developed in the early 1990's in Europe and now implemented worldwide.

~~(S//TK/~~ [redacted]

(U) HEO—highly elliptical orbit. A highly non-circular orbit characterized by a maximum altitude of 25,000 nautical miles and 12-hour orbital period.

(U) HI—Horizontal Integration

~~(S//TK/~~ [redacted]

~~(S/~~ [redacted]

(U) HR—human resources.

(U) HVT—high value target.

(U) IA—information assurance.

(U) IBS—Integrated Broadcast Service. A complex and dynamic intelligence dissemination "system of systems" that is a theater-tailored dissemination architecture with global connectivity using a common message format in support of current and programmed tactical and strategic warfare systems.

(U//~~FOUO~~) IBS-S—IBS SIMPLEX. A broadcast communications system relaying time-critical, tactical intelligence data in near real-time from national intelligence collection systems.

(U) ICE—independent cost estimates.

(U) IED—improvised explosive device.

(U) ILV—intermediate launch vehicle.

~~(S//TK//~~ [redacted]

(U) IMINT—Imagery Intelligence and Geospatial Information.

~~(S//TK)~~ [redacted]

~~(S//TK//~~ [redacted]

(U) IOC—initial operational capability.

~~(S//TK//~~ [redacted]

~~(S//TK//~~ [redacted]

(U) IP/MPLS—internet protocol/multiprotocol label switching.

(S) (U) [redacted]

(U) IS—information systems.

(U) ISARA—Information Sharing & Routing Architecture. A new message handling system based on a common core built on emerging standards (includes XML) that can address current & future requirements.

(U) ISI—Innovative Solutions Initiative. Classified analog to the Director's Innovation Initiative.

(U) IV&V—independent validation and verification.

~~(S//TK//~~ [redacted]

(U) JRD—Joint Requirements Document.

~~(S//TK//~~ [redacted]

~~(S//TK//~~ [redacted]

(U) KDP—key decision point.

(U) LEO—low earth orbit. An orbital regime between 90-600 nautical miles characterized by short orbital periods (approximately 90-100 minutes) that allow for frequent revisits per day.

(U) LPE—low power electronics.

(U) LPI/LPD—low probability of intercept/low probability of detection.

(S) (U) [redacted]

~~(S//TK)~~ [redacted]

(U) Mbps—Megabits per second (10^6 bits per second).

(U) MCCS—Mission Critical Conferencing System. Multi-year project to provide mission voice services to the NRO.

(S//TK) [redacted]

(U) MCS—mission control system.

(U//FOUO) MDDS—M-22 Data Dissemination System

(S//TK) [redacted]

(U) MGS—mission ground station.

(U) MHz—megahertz (10^6 Hertz or cycles per second).

(U) MIGS—Multi-INT Ground Service.

(U) MilPers—military personnel.

(U) MIND—Mission Integration and Development. The FIA ground segment that performs the architecture's mission management, communication relay management and data routing functions.

(U) MIPS—million instructions per second.

(U) MLE—mean life estimate. Estimate of remaining lifetime of a space asset taking into account current state and system reliability.

(U) MMD—mean mission duration.

(S//TK) [redacted]

(S//NF) [redacted]

(U) MPLS—Multiprotocol Label Switching. Data carrying mechanism that belongs to the family of packet-switching networks.

(U) MRB—Mission Requirements Board.

(S) (U) [redacted]

(S//TK) [redacted]

(U) NAB—NRO Acquisition Board.

(U) NCG—NRO Cost Group.

(U) NGEL—Next Generation Edge LAN. Program that efficiently merges long-haul data with the desktop user through means of new, high-speed switching equipment serving as the interface between the campus LAN and long-haul communication.

(U) NGEO—Next Generation Electro-optic system.

(U) NGOS—Next Generation Overhead SIGINT. The IOSA follow-on architecture.

(U) NIIRS—National Imagery Interpretability Rating Scale. Standardize system for describing the intelligence tasks that can be performed using an image.

(U) NIS—*National Intelligence Strategy.*

(U) NMIS—NRO management information system.

(U) NMS—NRO Mission Support.

(U) NOPS—NRO Operations Squadron.

(U) NRP—National Reconnaissance Program.

(U) NTM—National Technical Means.

(U) OCMC—Overhead Collection Management Center. Joint, fully-integrated organization which brokers all SIGINT overhead requirements.

(U) OD&E—CIA Office of Development and Engineering.

(U) OEF—Operation ENDURING FREEDOM.

(U) OF—operations facility.

(U) OIF—Operation IRAQI FREEDOM.

(U) ONIR—overhead non-imaging infrared. A subset of MASINT focused on infrared signatures.

(S/[redacted]

(S//NF) [redacted]

(U) OPE—operational performance evaluation.

(U) OPELINT—Operational Electronic Intelligence.

~~(S//TK/~~ [redacted]

(U) OSL—Office of Space Launch.

~~(S//TK//NF)~~ [redacted]

~~(S//TK)~~ [redacted]

~~(S//TK/~~ [redacted]

(U) PART—Program Assessment Rating Tool. OMB managed annual assessment of the performance of programs across the Federal Government.

(U) PATRIOT—NRO Communications Directorate contract.

(U) PCF—Pacific Communications Facility.

(U) PCS—permanent change of station.

(U) PCT—Pacific Communications Terminal.

(U) PDR—preliminary design review.

(U) Performance Objectives: Future Support - Budgeted activities that are not providing capabilities in the current budget year (FY 2009), but will significantly contribute to the outcomes, goals, and initiatives of the NIS mission objectives once they become operational (e.g., acquisition programs, research and technology programs.)

(U) Performance Objectives: Indirect Support - Operational or future budgeted activities that provide (or will provide) general support for intelligence activities (e.g. logistics, infrastructure, corporate management).

(U) Performance Objectives: Mission Objectives - One of the five mission objectives included in The National Intelligence Strategy of the United States of America, October 2005. Mission objectives relate to our efforts to predict, penetrate, and pre-empt threats to our national security and to assist all who make and implement US national security policy, fight our wars, protect our nation, and enforce our laws in the implementation of national policy goals.

~~(S//TK//NF)~~ [redacted]

(U) PPA—personal performance assessment.

(U) PR/CSAR—personnel recovery/combat search and rescue.

(U) PROFORMA—weapons related, machine-to-machine signals intelligence and information.

~~(S//TK/~~ [redacted]

(U) R/S—Relay Satellite.

~~(S//TK/~~ [redacted]

~~(S//NF)~~ [redacted]

(U) RF—radio frequency or receive facility.

(U) RROC—Rapid Response Operations Center

~~(S//TK/~~ [redacted]

(U) SAI—SIGINT Application and Integration.

(U) SAP—Systems, Applications, and Products in Data Processing. A German owned business software firm.

~~(S//~~ [redacted]

(U) SAR—synthetic aperture radar. A collection capability that uses returns from actively transmitted radar signals to produce high-resolution images regardless of weather or darkness.

(U) SCMIS—Secret collateral management information system.

(U) SCTV—spacecraft thermal vacuum test.

(U) SDR—system design review.

(S//TK) (U) SET—Small Earth Terminal. Antenna used for S-band communications to [redacted]

(U) SETA—system engineering and technical analysis.

(U) SI&E—system integration and engineering.

(U) SIGINT—Signals Intelligence.

(S//TK//NF) [redacted]

(S//TK//NF) [redacted]

(U) SOMMS—SIGINT Overhead Mission Management System. A hardware and software tool that provides OCMC the capability to allocate SIGINT satellites against intelligence targets in accordance with priorities and guidance established by the SIGINT Overhead Reconnaissance Subcommittee.

(U) SP—SIGINT production. A processor for SIGINT Low.

(U) SPIF—Spacecraft Processing and Integration Facility.

(S//[redacted]

(U) SRR—system requirements review.

(U) STO—special technical operations.

(U) STR—SIGINT Test Range.

(U) SURREY—NSA's source of SIGINT requirements under the Unified Cryptologic Architecture.

(U) SV—space vehicle.

(S) [redacted]

(U) TECHELINT—Technical Electronic Intelligence.

(TS//SI/TK/[redacted]

(U) TI—technical intelligence.

(S//[redacted]

(S) [redacted]

(U) TTP—tactics, techniques, and procedures.

(U) UGA—unified ground architecture.

(U) ULA—United Launch Alliance. The Lockheed-Martin/Boeing joint venture for manufacturing and supporting the Atlas and Delta EELV booster systems.

(U) UMIS—unclassified management information system.

(U) USAT—ultra small aperture terminal.

(U) UWAN—unclassified wide-area network. NRO's unclassified network.

(U) VAFB—Vandenberg Air Force Base.

(S//SI/TK//[redacted]

(U) WAN—wide area network.

~~(S//TK//~~ [redacted]

~~(S//TK//~~ [redacted]

~~(S//TK)~~ [redacted]

~~(S//TK)~~ [redacted]