

(U) NRO GROUND COMMUNICATIONS INFRASTRUCTURE AND SERVICES

(U) PROGRAM PERSPECTIVE

**National Reconnaissance Program
Information Services**
Funds by Expenditure Center and Base/Ongoing/New
FY 1996-2003

| | FY 96 | FY 97 | FY 98 | FY 97-98 Change | FY 99 | FY 98-03 |
|------|------------|-------|-------|--------------------|-------|----------|
| Base | [REDACTED] | | | | | |

[REDACTED]

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(U) Ground communications plays a pivotal role in the consolidated and integrated space-based collection architectures of the NRO, by managing the assured flow of intelligence and data through ground-based assets. This role is accomplished through the design, acquisition, operation, maintenance, and management of the ground communications portion of the overall NRO Information Systems Infrastructure, which includes both telecommunications and Management Information Systems (MIS).

(S) The Information Technology Group (ITG) within the Communications Directorate (COMM) provides the critical ground communications link in the end-to-end systems engineering effectiveness of the NRO. ITG's telecommunications network supports mission tasking to NRO satellite operations; transmission of time critical satellite command and control, and telemetry data; and dissemination of wideband mission data supporting the operations and maintenance of the NRO's overhead IMINT, SIGINT, and MASINT collection and processing systems. ITG also provides services in direct support of NRO's mission (i.e., secure voice, secure video teleconferencing, and data transfer services are provided to the NRO community to send, receive, store, display, and manipulate administrative, voice, facsimile, and video data). Our vision is "to be the premier NRO customer service provider of unparalleled information systems and telecommunications capabilities." The overall strategy for achieving this vision is to integrate development and operations by defining a user-focused, standards-based, integrated and open systems architecture. Figure 74 provides a delineation of this strategy. It identifies new, commercial-off-the-shelf

(COTS) telecommunications technologies and correlates these with user-focused requirements to ensure an integrated development and to identify interdependencies. Actual integration of these new technologies into the NRO telecommunications network will be governed by user requirements and the use of sound business and engineering practices. (Note: COMM IOC dates generally precede system IOC dates found elsewhere in this CBJB.)

**National Reconnaissance Program
Communications by Project**
FY 1996-2003

| | FY 96 | FY 97 | FY 98 | FY 97-98 Change | FY 99 | FY 98-03 |
|--|------------|-------|-------|--------------------|-------|----------|
| | [REDACTED] | | | | | |

[REDACTED]

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(c) Structured for the first time in last year's CBBJ as seven logical categories of expenditure, in this CBBJ we have added an eighth interrelated category. Each of the eight categories is explained in detail below. This budget (summarized above) is designed to achieve the primary goal of enriching the NRO's mission data transport capabilities as well as providing systems and services to support overall improvement of the NRO mission as a "system of systems." A key element of this goal is the consolidation of all NRO communications facilities and improved connectivity between elements by replacing parallel, incompatible networks with integrated systems based on commercial and government standards. ITG is participating in the definition of an NRO open systems standards profile to establish network standards and policies for information and telecommunications services to all NRO elements, consistent with Intelligence Community and DoD information architectures. The scope of the open systems standards and policies includes engineering, software development, installation, testing, and operations and maintenance support for a single NRO network.

(3) At the same time, we must provide a reliable and secure infrastructure in the most efficient and cost effective manner. Over the next decade, the network security ITG provides to the NRO will evolve to account for new and increasing threats and simultaneously take advantage of evolving security technology. ITG will use a "risk management" approach to network security policy, whereby risks are understood and protective countermeasures are incorporated to, at a minimum, mitigate the risk to an acceptable level. The costs of providing security protection will be balanced against the cost of not providing protection (i.e., the risk, exposure, and potential harm if the protections are not incorporated). The NRO network system security program is designed to enhance the security posture of ITG-provided networks and information processing capabilities by integrating managerial, administrative, procedural, and technical security measures to attain an acceptable level of protection.

(4) The NRO's integration of its ground communications network supports its family of Intelligence Community, government, military, and industrial organizations around the world. This common communications system is key to assuring secure connectivity for launch, on-orbit command and control, and timely processing and dissemination of mission data. This cohesive process from Tasking through to Products is depicted as Figure 75.

(5) A common communications system becomes even more critical as the NRO continues to integrate the operations and data from its mission ground stations. Examples of this integration are reflected in the following ongoing and planned architectures:

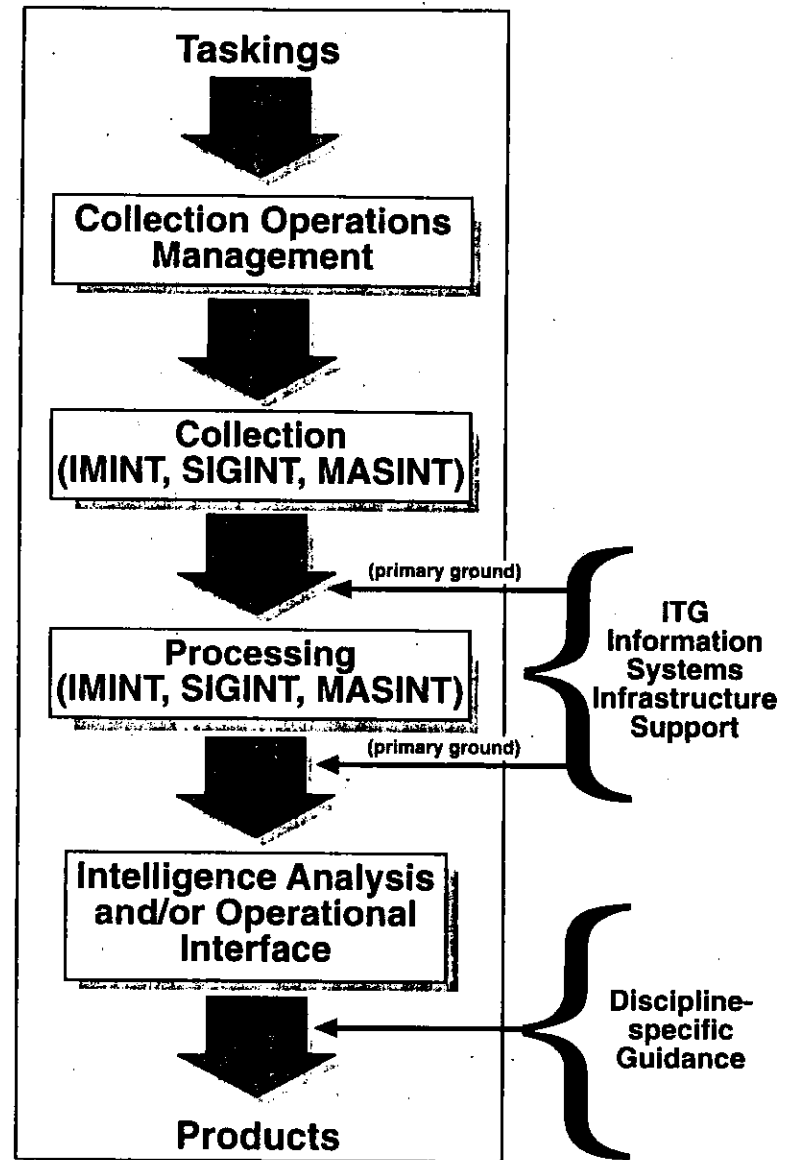


Figure 75. Taskings to Products Flow

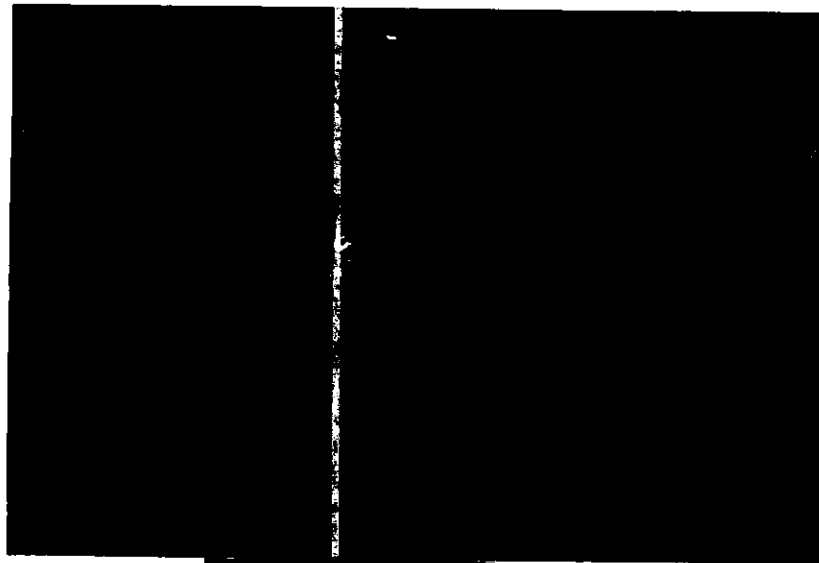
[REDACTED]

[REDACTED]

[REDACTED]

(S) Through effective management of mission-essential bandwidth, we can achieve cost-effective sharing of secure communications requirements such as voice, facsimile, video teleconferencing, and MIS services across the NRO. The overall system must remain responsive to new requirements, as well as continue to service and maintain the existing infrastructure. COMM Ground Communications is working closely with the collection System Program Offices (SPOs) as they migrate toward consolidated systems to evolve the communications infrastructure to meet these efficiencies.

(T) The warfighting components of the military services, the national decision makers, and the Intelligence Community are the customers of the NRO's products. Satisfaction of their requirements necessitates collaboration among these many Agencies and Departments. We are working through the Intelligence Systems Board (ISB) to increase NRO's interconnectivity with the Intelligence Community and the military. The NRO receives its tasking from a variety of sources. ITG provides communications systems and interfaces which support collection system tasking directly from national and military users; product dissemination through the National Imagery and Mapping Agency (NIMA) and NSA; and connectivity to the DIA-managed Joint Worldwide Intelligence Communications System



(JWICS). An example of how this kind of interaction has resulted in operational advantage is the data relay support for the Defense Airborne Reconnaissance Office (DARO) Extended Tether Program now being provided by NRO. Our network is continually being optimized by incorporating the most economical communications services through the use of commercial providers, purchased communications lines through DISA, and shared resources use with NSA or other IC Executive Agency communications services. An excellent, and long-standing example of this optimization is NRO and NSA supporting jointly, operations at several [REDACTED]

(7) Finally, ITG's strategic goals include expanding existing capabilities to allow increased support to US military actions. COMM places great emphasis on enhancing exercise and contingency support and we are in fact now striving to extend that support to our warfighters engaged in hostile operations. Plans for expanded connectivity and interoperability with the military user community will involve expanding ITG's communications capabilities to enhance NRO support to military exercises and provide more flexible contingency support, and consolidating and establishing processes to prioritize and more fully use satellite communications (SATCOM) and other resources during contingencies. All of these activities allow us to

improve the flow of information and support new architectures that will increase responsiveness to "tactical" users.

(U) SYSTEM DESCRIPTION AND OPERATIONS CONCEPT

(C) COMM/ITG provides classified communications and related technical support to more than [REDACTED] government and contractor facilities which directly support the NRO. Figure 78 provides a visual synopsis of the NRO Integrated Ground Communications Network.



(S) This NRO enterprise-wide communications infrastructure supports all aspects of the organization's mission. Communications support is provided to acquisition activities between the NRO programs and their supporting industrial base to include definition of requirements, detailed design, and implementation of capabilities. Launch communication services encompass not only the actual launch event, but also prelaunch planning and support to mission needs such as pad-to-factory vehicle telemetry for remote testing and video services for anomaly resolution. Connectivity is provided for satellite operations and mission data transmission worldwide by fixed and mobile communications.

(U) Ongoing efforts to consolidate, streamline, and integrate communications-computer infrastructure services and support are directed at five areas:

- standardizing the requirements process;
- improving operational support;
- enhancing the interoperability, internally and externally, of NRO communications and computer systems;
- making maximum use of commercial services and products; and,
- taking advantage of evolving technology.

(7) As the NRO overhead architecture evolves, the ground communications requirements demand increased capacity, interoperability, and interconnectivity. ITG has developed an Integrated Road Map (IRM) to



facilitate strategic planning of these changing requirements and to guide future investment decisions. Long range planning is critical in implementation of the NRO strategic vision and the dramatic increase in interaction with agencies, both within the Intelligence Community and the DoD. Interaction with IMINT, SIGINT, Office of Systems Applications (OSA), Operational Support Office (OSO), and Office of Space Launch (OSL), as well as other

customers, requires us to plan and provide bandwidth needs which can handle not only normal traffic, but meet Quick Reaction Capability (QRC) requirements as well. The goal of this planning activity is to cultivate broad architectural concepts, based on open systems standards and commercial practices which support the integrated infrastructure to optimize NRO collection services.

(U) FUTURE INVESTMENT

(U) ITG is continuing its efforts toward achieving a consolidated and integrated information systems and services infrastructure. The advantages of employing common standards and processes, providing a seamless information network not only within the NRO but also with external elements, are significant. Ground communications challenges are increasing as the NRO integrated collection systems and associated processing facilities are consolidated, rendering a significantly more communications-intense collection architecture. Mission data requirements will increase by a factor of about fifty to support remote downlinks and for transport of data between processing facilities. Significant increases in mission data transfer requirements are expected to result in large increases in long haul communications speed and capacity for this service.

[REDACTED] Future investments designed to enhance operational support and achieve cost efficiencies are underway and are reflected in the IRM.

(U) BUDGET ELEMENT

(U) Leased Lines

[REDACTED]

[REDACTED]

[REDACTED]

(U) Network Operations

(U) Funds network operations and maintenance support for 24 hours per day, 7 days per week operation of the NRO core communications services. Contracts for operations support of servers, desktop terminals, peripheral devices, LAN infrastructure equipment, warehouse support, help desk and systems administration support, training support services, consolidated maintenance contracts, contract maintenance support for over 10,000 network devices, [REDACTED] are funded here. The most significant components are the communications and computer support contract, equipment service contracts, engineering and support services contracts, and consolidated maintenance contracts for launch communications support. Network Operations & Support also funds the NRO-CIA connectivity via the [REDACTED] currently used for administrative services to CIA employees in the NRO. The FY 98 decrease is attributed to the redistribution of dollars within Ground Communications to more accurately reflect program objectives and priorities. FY 97 and out funding has been adjusted downward to capture forward funding and CAAS adjustments.

(U) The Integrated Network Management System (INMS) initiative that provides reliable, responsive, and integrated network and information system management capabilities across the NRO communications backbone is another major activity. INMS provides an integrated, scalable system for monitoring, measuring, and controlling the NRO enterprise network and its services, and entails the migration from numerous disparate network management systems to a single, highly automated, standards-based, open-systems architecture. FY 98 funds support the acquisition, installation, and integration of pre-planned hardware and software upgrades commensurate with technological advances and established and proven COTS products. Cost efficiencies are realized by a reduction in administrative and operational costs through the consolidation and automation of redundant management systems and processes. Additionally, INMS provides enhanced network and data security, facilitates network architecture changes,

optimizes use of network and system resources, and reduces degradation and disruption of network services.

(U) Software Support

[REDACTED]

(U) Network Hardware

[REDACTED]

Additionally, FY 97 funding was adjusted downward to incorporate forward funding adjustments.

(U) In an environment aimed at improving efficiency and lowering costs, ITG has developed eight "business centers" across the organization. These business centers undertake a "process owner" responsibility for standardizing the architecture, cost, implementation, and life-cycle support for products under their purview. They are serving as models to be replicated throughout ITG and the NRO, by establishing standardization, recapitalization programs, ordering efficiency, and cost savings. Improvements are currently being realized through quicker delivery to the customer, reduced acquisition costs, and systematic capital investment programs to replace obsolete, unmaintainable equipment.

(U) Major activities for FY 98 and beyond include the following efforts.

(S) [REDACTED]

(S) [REDACTED]

[REDACTED]

[REDACTED]

MIS and telecommunications requirements and services into the most efficient network possible to meet customer needs. The AEAC lab will perform development and integration on technologies related to advanced communication and information systems and services to include high speed networking, multimedia services, and Internet technology.

(S) [REDACTED]

(U) MIS Modernization transitions the NRO to a next generation Management Information System (MIS) in FY 97, with the goal of completing the effort by the end of FY 98. During FY 98, ITG will continue to recapitalize its obsolete NeXT workstation inventory, and will replace it with a mainstream Intel Pentium-based workstation that supports a wide range of hardware and software COTS products. The benefits are improved data interchange with external organizations and reduced need to purchase more expensive niche market products. The next generation MIS desktop workstation will allow the NRO to select the most cost-effective solution for its evolving MIS and external customer requirements. FY 98 costs to accomplish workstation recapitalization include hardware purchases, plus non-recurring contract systems engineering and installation support costs. The NRO's MIS modernization strategy will eliminate dependence on limited solutions by investing in mainstream COTS MIS products and technologies that are more powerful, better integrated, less expensive, and more manageable. The new MIS will give the NRO the foundation of a MIS that exemplifies the spirit of responsiveness and technological excellence that will carry the NRO into the 21st century.

(U) Significant components of this program include the configuration management and system integrator working with the various program offices to ensure requirements are captured and tracked to a project and schedule. Minor components include consulting engineering contracts, studies and lab work, engineering services associated with record message transport, and mail server engineering services. Systems Engineering Support also provides for the integration of evolving technologies into the NRO communications system.

(U) System Engineering

(U) System Development

(U) This line funds system engineering, configuration management, and systems integration. A significant effort is currently underway to develop new system concepts, options, and capabilities through ITG's Laboratories. These development, test and integration laboratories are its mainstay for developing a robust, distributed, and integrated architecture through use of innovative systems engineering, life-cycle planning, and pursuit of preeminent emerging technologies. The ITG Systems Engineering Staff (SES) is tasked with the consolidation and integration of all ITG lab activities to improve efficiency. This management provides controlled focus on the development, integration, testing, and checkout functions involving new transmission/switching equipment, networking equipment and services, and all applications software required for the NRO network. The Advanced Engineering Analysis Center (AEAC) is the most recently incorporated lab. AEAC's goal of enhancing the operational efficiency of NRO networks and communications systems directly supports the COMM Strategic Plan for integrating all of the NRO's

(U) Software Development funds network hardware and software support, tools and test equipment, systems integration services, and service and consulting contracts associated with the development and initial deployment of new information systems. The increase from the FY 97 President's Budget is the result of a realignment of funds into System Development from within Ground Communications.

(U) The following ongoing initiatives focus on consolidation of multiple independent networks and leveraging new network bandwidth, messaging, and management technologies that produce savings over time.

(S) [REDACTED]

[REDACTED]

[REDACTED]

(U) Miscellaneous Support and Services

(U) Defense Message System (DMS) funds engineering and proof of concept activities to transition to DMS in response to the Defense Information System Agency's (DISA) initiative to provide improved record communications and E-mail for the DoD. Per direction from the DCI, the NRO and the rest of the Intelligence Community will transition from SOCOMM, AUTODIN, and E-mail to DMS. This will include a [REDACTED] level, DMS compliant messaging capability with retrospective search and profiling enhancements. The NRO Intelligence Demonstration Network (IDN) testbed will enable functional testing and evaluation of DMS components to determine DMS compatibility with the Intelligence Community's unique messaging and security requirements

(U) Funds consumable supplies, publications, tools and test equipment, cellular phone and pager support to the NRO customer base, vehicle purchases, fuel, maintenance support to field units, fee-for-service expenses pursuant to host-tenant agreements, base supply and imprest accounts, bench stock, base transportation management office expenses, and travel and training expenses. Funding in FY 97 was adjusted downward to incorporate forward funding adjustments.

(U) Information Systems Reinvestment Reserve

(S) [REDACTED]

(S) [REDACTED]

(U) In summary, COMM/ITG continues to satisfy increased requirements by efficient management and economies of scale through consolidation of systems, networks, and applications. Initial fiscal investments have paid off in terms of cost savings from the removal of no longer needed redundancies, implementation of improved procurement practices, and centralized design, implementation and operations efforts.

(S) [REDACTED]

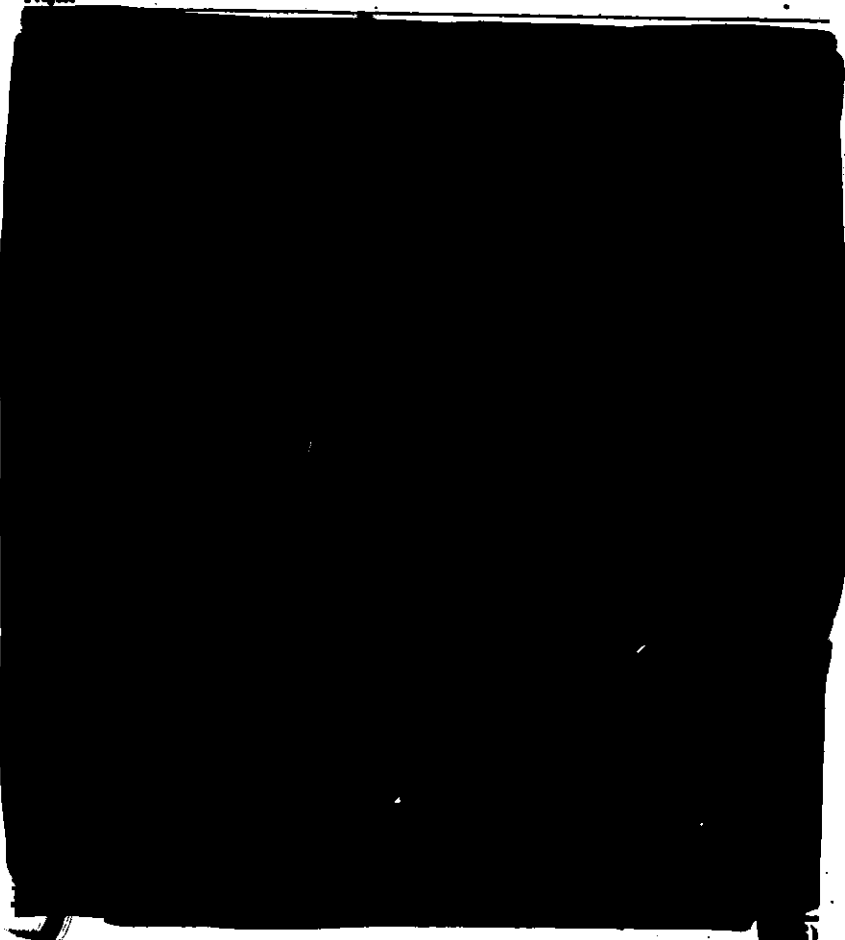
(U) The strategy to achieve our vision emphasizes maximum use of COTS products and services, while maintaining a strong technology program and constant innovation to ensure the most cost-effective and mission-responsive support. ITG is moving vigorously to evolve an end-to-end (requirements management to dissemination), integrated and interoperable communications and information systems architecture, in partnership with other NRO programs. We believe the program is balanced, sustaining the most capable support in a decreasing fiscal environment while retaining essential core capabilities for a viable NRO ground communications infrastructure.

(U) MISSION SUPPORT

(U) Management Services and Operations

National Reconnaissance Program (Dollars in Thousands)
Mission Support by Project
FY 1996-2003

| Project | FY 96 | FY 97 | FY 98 | FY 97-98 | | |
|---------|-------|-------|-------|----------|-------|----------|
| | | | | Change | FY 99 | FY 98-03 |



(U) The Management Services and Operations (MS&O) function provides NRO Headquarters facilities and centralized support services for the consolidated NRO and manages the funding for the Support Services, Westfields, Leased Facilities, and NRP Personnel lines in the above table. The NRO operates and maintains [REDACTED]

(U) Westfields

The Restructure Plan, approved by the SecDef and the DCI, provided for collocation of the majority of the NRO to the East Coast in 1993. The occupancy of the NRO Westfields facility was completed in 1996. Collocation is an integral part of the overall NRO strategy to work as one team to improve support to our customers as their requirements change and expand, and to focus on building the space systems that will provide the United States with global information superiority. The collocation activities have clearly improved the internal communications and coordination processes for overall management and program development activities. We have also enhanced external interaction and communication with our customers by our restructure and collocation activities.

(U) The NRO headquarters is located at the Westfields development in Western Fairfax County, VA. Within a 68-acre parcel, the facility master plan allows for a six-building complex, structured parking, emergency generator building, conference facility, and cafeteria. This master plan allows for total construction, by zoning right, of approximately 1.4 million gross square feet. The current Headquarters facility provides for approximately one million gross square feet, to include four office buildings, general site development, site security, and the basic infrastructure support. Cost-to-date status against the approved budget of \$310 million is below:

(U)
V00076

**NRO Headquarters Estimated
Cost for Four Towers
Compared to Budget of \$310 Million**

| Expenditure Through September 96 | Estimated Cost to Complete | Total Estimated Cost |
|--|----------------------------------|----------------------------|
| [REDACTED] | [REDACTED] | [REDACTED] |
| Total | [REDACTED] | [REDACTED] |

agencies and military services that have supported the organization, the NRO is continuing its migration towards internally providing more of the basic administrative infrastructure. Support Services funding provides for vehicle leases, configuration management support, organizational analysis studies, travel, automation of administrative services, and contractual support. Additional requirements including consolidation [REDACTED] costs as well as inflation factors constitute the growth in support services funding.

(U) Representational Funds

(S) This budget contains a requirement for [REDACTED] to meet reception and representation needs by the DNRO.

(U) Personnel

**Personnel Supporting
National Reconnaissance Program Activities**

| | FY 96 | FY 97 | FY 98 | FY 97-98 Change | FY 99 |
|------------------|------------|------------|------------|--------------------|------------|
| Positions | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

(S) The construction category includes facility construction costs, such as the rough grading, site development, core and shell construction, and the structural fit up. The support category includes other activation costs related to the construction project such as design and engineering services, construction management, security systems, ADP equipment, furniture and support equipment.

(S) The O&M category includes facility operations and maintenance, security services, custodial services, logistics support, and recurring supplies and equipment for all assigned personnel. It also includes utilities costs for the NRO Headquarters facilities. Included as a separate line item in this budget submission are funds to retrofit [REDACTED] from its current primary use as warehouse space to office space. This initiative will reduce, but not eliminate, our requirement for leased space to support headquarters functions. Funding requests through FY 98 are artificially low due to forward funding. The FY 99 request more accurately reflects O&M requirements.

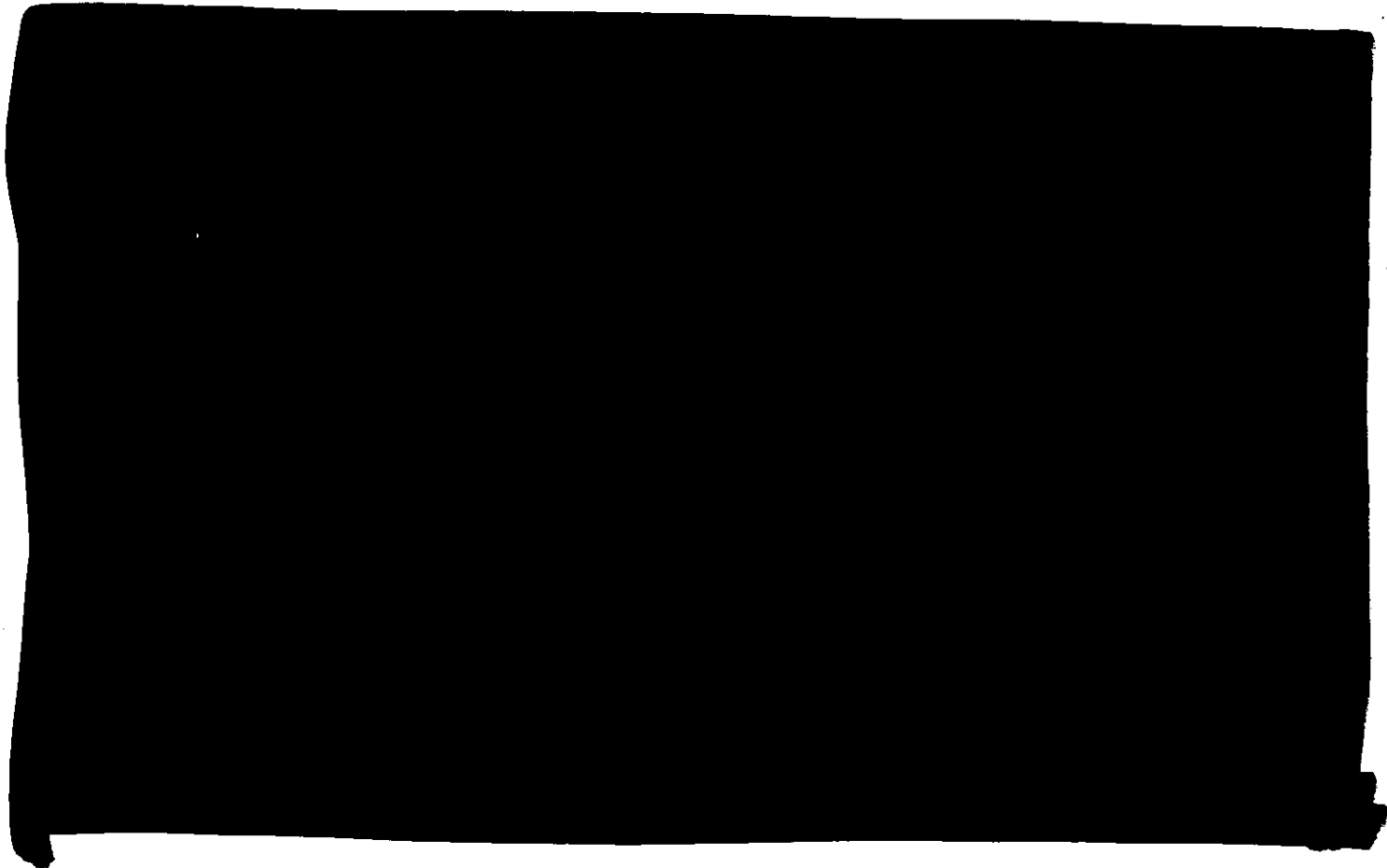
(U) Leased Facilities

(S) The NRO has retained a lease on [REDACTED] which is one of the six interim leased facilities previously obtained for consolidation to the East Coast. Elements of the Operational Support Office will vacate space at the [REDACTED] and move to [REDACTED] during FY 97. We will locate other elements and activities in [REDACTED] as necessary to accomplish mission objectives. The costs displayed provide for lease costs and utilities of the [REDACTED] facility.

(U) Support Services

(S) The NRO has collocated most of its elements to the Washington, D.C. area and is establishing the infrastructure and support required to support the reorganization. With downsizing and organizational changes occurring in

(U) Approximately [REDACTED] government personnel positions directly support the NRO. The NRO relies on the CIA and the DoD civilian and military employees for its personnel resources. Of these positions, Congress authorized [REDACTED] directly for the NRP. These full time positions and funded part-time personnel have been used for infrastructure supporting the NRO reorganization. The NRP reimburses the CIA and the DoD for full and part-time personnel filling these positions. The parent organizations



remain responsible for administering the payroll, retirement, and career development for these employees. In FY 98 the NRO will establish and fund a performance award program that will allow for the recognition of employees who achieve exceptional performance standards.

(U) Through FY 96 we have used these NRP authorized positions, combined with existing CIA and DoD positions, to establish basic core

infrastructure services. Examples of these services are facility and security services, records management, FOIA, document registries, training administration, and similar elements. In other functions such as Inspector General, General Counsel, secretarial services, and Legislative Liaison these positions supplement staff supporting a consolidated NRO. We reallocate these NRP authorized positions, as well as the CIA and DoD positions, as

necessary to meet the needs of the organization. For example, we allocated 50 NRP authorized positions to the newly created Resource Oversight and Management Office (ROM) in FY 96 to enhance our overall financial management process. Beginning in FY 97 we designated up to 25 of these positions at the Senior Intelligence Service, Senior Executive Service level. CMS has approved the allocation of the initial 18 of these positions in the FY 98 budget. This will allow us to further enhance overall management of the organization by recruiting, promoting, and retaining senior managers in critical areas such as ROM, Contracts, Security, MS&O, General Counsel, Plans and Analysis, and the Office of the Director. This is commensurate with corresponding management positions in other intelligence community agencies.

[REDACTED]

(S) We request 52 additional NRP positions (19 in FY 98, 21 in FY 99, and 12 in FY 00) to support NRO security requirements. The positions are required to keep pace with initial investigative caseload due to increased requirements for NRO access, and to reduce our polygraph backlog to an acceptable level. These positions are absolutely essential to the NRO maintaining a viable personnel security program.

(S) In other personnel actions, the need to re-direct approximately 50 positions to the Office of Resource Oversight and Management (ROM) last year has left personnel gaps in other infrastructure areas. To redress that, this CBJB funds 41 additional NRP positions for the Cost Group, the Office of Contracts, the Acquisition Center of Excellence, the new Deputy Director of National Support (DDNS), the new Director of Technology, Public Affairs, the Deputy Director for Military Support, the Equal Employment Opportunity Office, and Counterintelligence. Without these additional billets, we would be unable to provide NRO-wide independent cost analysis, enhanced

national customer support, contracting support for new programs, or timely responses to FOIA and media requests.

(U) Beginning in FY 97, the Director of Central Intelligence and the Secretary of Defense have agreed to a functional transfer to the NRP of positions and funding that have historically resided in the DoD, for salaries and benefits of military members and civilian employees assigned to the NRO.

(U) Plans and Analysis

(S) The Office of Plans and Analysis (P&A) is the NRO component responsible for cross-int (internal NRO and Intelligence Community) and cross-program (internal NRO) planning and analysis. P&A provides corporate strategic planning, independent program assessments (cost, schedule, and performance), investment analyses, serves as the executive agent for NRO acquisition board management, and is responsible for the formulation of internal NRO policy and Intelligence Community policy relating to the NRO. P&A also develops and maintains a unique assortment of management and modeling/simulation tools critical to effective future system of systems architecture planning for the NRO. P&A is the focal point for NRO integrated systems management and routinely conducts system performance analyses, cost-benefit trades, program requirement assessments and new concept studies with mission partners, where applicable. P&A is the key impetus for new NRO system concepts to meet future intelligence challenges.

(U) Corporate Planning

(U) P&A manages the strategic planning process for the DNRO. A major upgrade of the strategic planning process is underway to incorporate performance measures and benchmarks. This will provide the DNRO with a balanced score card to evaluate performance against the NRO's mission, vision, and goals. This strategic planning effort is vital to chart the future course of the organization.

(U) P&A also conducts preliminary cost analysis to provide the DNRO insight into the timing and financial implications of proposed new start acquisition programs. The NRO's overarching acquisition management directive is maintained by P&A. P&A is the catalyst for continuing reform in the current NRO acquisition process. Activities over the last year include assessing the potential for incorporating federal acquisition reform initiatives into the NRO process and supporting the development and implementation of improved business and management practices in response to Jeremiah Panel recommendations. Management of the acquisition process has made it possible to

continue streamlined acquisition enabling the NRO to develop and acquire systems relatively faster than other government entities.

(S) Over the past year, P&A has further developed the Integrated Road Map (IRM) to more effectively and clearly portray the integrated NRO architecture. The IRM is now available on the NRO world wide web to provide insight into the increasingly interdependent nature of the operational and planned programs being undertaken which address the requirements of the NRO's mission partners and customers. P&A has extended this capability to an even wider segment of the user community by publishing a [REDACTED] version of the IRM on Intelink. Without the IRM, the NRO's customers' and stakeholders' planning processes would be deprived of a key source of information on NRO planned programs and capabilities. NRO personnel would also suffer from the loss of an enterprise-wide perspective in managing the increasing interdependencies among NRO programs. P&A will improve the utility of the IRM by developing a more portable version for systems and platforms beyond the NRO's internal work station network, as outside organizations have expressed interest in developing road maps compatible with our IRM.

(S) Funding for year 2000 software impacts [REDACTED] is included in the FY 98 P&A budget. Once the scope of this problem has been determined, these funds will be allocated to the specific programs in IMINT, SIGINT, and COMM to directly implement system modifications necessary to accommodate the year 2000 rollover.

(U) Independent Program Assessments

(S) P&A regularly performs independent, cross-program, and cross-discipline assessments as part of the acquisition process, in support of strategic planning, or to aid in DNRO decisions. [REDACTED]

[REDACTED] In order for the DNRO to make informed and effective decisions, he requires assessments of alternatives and the alternatives' ability to address user needs and requirements. Additionally, cross-program and cross-discipline trades are necessary to select cost-effective solutions and to steer strategic planning. Without these analyses the NRO would make less effective decisions and have more difficulty defending the decisions internally, within the IC, and with Congressional Oversight Committees. We anticipate the Integrated Overhead SIGINT Architecture Processing Segment and the Future Imagery Architecture (FIA) will require IPAs during FY 98 as will a number of other program modifications.

(U) External Agency Support

[REDACTED]

[REDACTED]

(U) Cross-Program Analysis

(S) P&A regularly performs independent, cross-program analysis as part of NRO decision support and in our role as NRO Systems Engineer. Recent examples of this include the launch decision process study, the continuing mean mission duration analysis, and the deorbit policy analysis. P&A also provides analysis and obtains community input for the actual launch and deorbit decision. These studies are essential to the cost-effective

execution of the NRP. We anticipate that we will support up to four launch decisions during FY 98 based on the current programmatic plans.

(U) Concept Studies

~~(S)~~ Fundamental to the strategic planning function is the investigation of new and alternative architectures to address customers' needs. To this end, P&A conducts architectural concept studies either independently or jointly with other NRO organizations and external agencies. The Advanced Communications and SIGINT Architecture Study (ACSAS) and Imagery Architecture Study (IAS) are the most recent examples. The ACSAS identified high payoff opportunities that are being investigated in more detail by the Communications Directorate in the NSCP. The results from IAS demonstrated the opportunity for improved performance and reduced cost from a "clean sheet of paper" approach to imagery collectors.

[REDACTED] these studies are likely to provide innovative ways to accomplish the existing mission more cost-effectively and potentially identify new capabilities to provide reconnaissance data from space assets.

(U) External Interface for Requirements

(U) The NRO supports the identification and development of current and future intelligence and reconnaissance requirements by the Services and weapons system program offices. The NRO has made great improvements in the past year in exchange of information and participation in the JCS Joint Requirements Oversight Council process, including the Joint Warfighting Capability Assessments. This educational process and recognition of the end-to-end intelligence support process and system supporting military operations and system development helps maintain the requirements development, traceability, and satisfaction necessary in a resource constrained environment.

[REDACTED]

~~(S)~~ The NRO's participation in national and service wargaming activities is increasing significantly. Wargames are useful to the NRO for two reasons. First, they provide a unique tool to explore the utility of future architectures, technologies and concepts of operations. Second, wargames are an invaluable vehicle for demonstrating to customers the capabilities of NRP systems. Participating in the Naval War College's Global 95 and 96 wargames and the Army's Army After Next wargame, P&A has been leading an effort to achieve the integration of intelligence, surveillance, and reconnaissance functions into wargames and campaign modeling. Adding this next level of realism to the wargames and campaign modeling brings these important exercises closer to training-like-you-fight.

~~(S/K)~~ The NRO plays an important role in implementing the DCI's Environmental Intelligence and Applications Program (EIAP). It also supports several other programs and activities within DoD and the civil agencies aimed at providing improved environmental information in support of military and civil missions. Within the EIAP, NRO offices and directorates maintain working relationships with the cleared MEDEA scientists to better understand the scientific basis for environmental phenomenology. These insights can lead to improved sensor designs for collecting both environmental intelligence data.

[REDACTED]

[REDACTED]

the NRO process of developing collection systems that will continue to provide unique intelligence in the years ahead.

(U) Analysis

(U) P&A is the NRO architectural engineer and analytical focal point. Credible and timely decision analyses depend on establishing and nurturing an analytical environment and a robust computer-based simulation and tool capability. P&A builds and integrates this capability of NRO cross-program and cross-discipline simulators, related analytical tools and skilled analysts, to represent end-to-end airborne and overhead intelligence architectures.

(U) Analysis Center

(U) The objective of the P&A Analysis Center is to provide cost-effective simulation and analysis capability allowing analysts to quickly understand the question, define the metrics, modify software, execute a simulation case, analyze the data, draw conclusions, and present the results to decision makers. Analysts draw from a tool box of aids which include: requirements databases, collection and tasking simulators, end-to-end architecture analysis and simulation, visualization and display tools, and decision support aids.

(U) In summary, the P&A Analysis Center provides the analytical environment for senior level decision makers to:

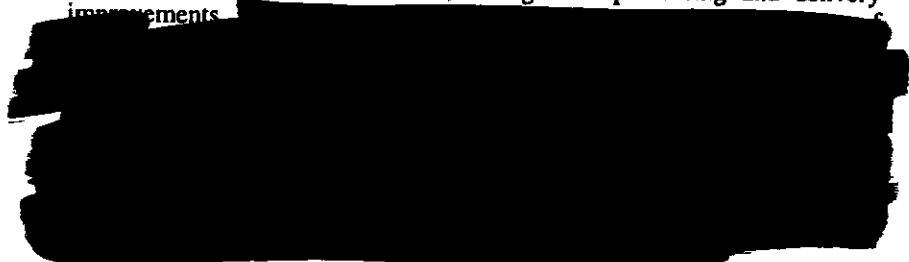
- Gain insight into the trade space of system architectures and options in the context of user needs;
- Measure the value of advanced technology with an eye toward improving cost/benefit ratios;
- Establish base line performance and pay-off for additional research investment; and
- Evaluate impacts of alternatives to current operational concepts.

(U) Current funding provides core infrastructure, resources, and management to conduct two to three major studies each year, along with a number of smaller advanced technology or "out of the box" studies. The Center provides the NRO with choices and consequences in system design and architecture selection decision processes.

(U) Strategic Studies

(U) The P&A Analysis Center supports requirements translation and architectural definition for major NIMA, DARO, DIA, NSA, and JCS studies. These efforts include MINT and SIGINT aircraft and spacecraft collection and architecture studies. Customer utility and value-added contribution is measured for future systems, emerging technologies of small

satellites, commercial satellites, long dwell imaging systems, manned and unmanned reconnaissance aircraft, and ground processing and delivery improvements.



(U) Decision Analysis

(U) The P&A Decision Analysis Division maintains a small cadre of world-class decision analysts that provides its services to analysts in the Analysis Center, to other analysts in P&A, and to senior leaders in other parts of the NRO on problems where substantial subjective judgment, group consensus, and uncertainty play a major role. Equipped with the latest portable computer hardware, decision support software and a transportable Local Area Network (LAN), the Decision Analysis Division takes its capabilities wherever needed to provide quick response, credible and cost-effective study support. For example, the Decision Analysis Division teamed up with ROM to establish a process for NRO-wide allocation of CAAS. It is also currently supporting strategic planning for the A/DNRO and his senior managers, and creation of a unified planning and resource allocation processes for the NRO Technical Enterprise. This service enables senior leaders in the NRO to accomplish much more in their meetings and conferences and improve the quality and robustness of NRO source selections. With the recent decision of the NRO to migrate from the NeXT to Windows NT, the Decision Analysis Division is in a position to implement an NRO-wide group collaborative analysis capability on the LAN. This workflow enhancement can provide significant savings in meeting preparation and the conduct of meetings across the entire NRO.

(U) Training and Exercise Environment



[REDACTED]

historical lecture series, an exhibit function, and a records preservation and reference service section.

(U) Interagency Activities

(U) Information Exchange

(U) P&A is responsible for maintaining the NRO information space on the INTELINK networks and INTERNET. This has become an essential mechanism to reach out and communicate with our customer base by posting information on the capabilities and uses of our systems; and by providing customers a near-real-time capability to address product and service shortfalls. This activity was undertaken by P&A as a new requirement in FY97 with needs growing in FY 98 and FY 99 to \$1.5 million.

(U) Policy

(U) In addition to operational requirements, P&A is the DNRO's staff element for all actions related to space policy. P&A/Policy represents the NRO in interagency forums, tracks evolving US government policies and provides recommendations to senior management regarding the impact on the NRO, and develops NRO implementing directives. Major external coordination issues worked throughout the year include: participation in the development of the national space policy, the Intelligence and Defense Working Group under the sponsorship of the Gore-Chernomyrdin Environmental Working Group; CIO/NIMA development of the DCI's Imagery Derived Product Policy; CIO/NIMA development of a proposal for Selective Declassification of Classified Electro-Optical Satellite Imagery Products; CIO/NIMA development of an imagery release policy to foreign governments (to support multinational activities in and around Bosnia). In response to DCI direction, the Policy Division led the NRO in conducting a Baldrige-like quality control self-assessment. The Policy Division maintains NRO's records dating from the early 1960s to the late 1970s and responds to FOIA inquiries and mandatory declassification requests.

(U) NRO History Program

(U) The NRO History Program was established in 1996 to help capture and preserve the corporate memory of the NRO. It consists of a major research and writing segment, an oral history program, an educational and

[REDACTED]

(U) The Director, P&A also serves as a co-chair on the National Security Space Master Plan Senior Steering Group and coordinates intelligence community participation in that process. This plan will contain thematic "Guidestars" for the future direction of intelligence and defense space programs into the next century and is scheduled to be delivered to Congress in early 1997.

(U) In addition, P&A will be the NRO focal point for the JSMB directed IPT review of NRO and DoD space programs scheduled to commence during the last quarter of 1996. The IPT will examine the best practices of both the NRO and DoD with respect to policy formulation, acquisition procedures, planning techniques, research, development, testing, and engineering (RDT&E), operations, and resource management. Principally, the IPT will focus on the ability of the NRO and DoD to reliably meet critical requirements without interruption over the next ten years.

(U) Finally, P&A has been worked closely with the NRO Communications Directorate to establish direct secure voice and desktop computer connectivity with the offices of the DoD Space Architect and Deputy Under Secretary of Defense (Space). Initial operational capability was December 1996.

(U) P&A Future—Jeremiah Panel Recommendations

(U) The Jeremiah Panel provided recommendations that impact the organization, operation, and function of P&A. The Panel suggested, among other recommendations, that the NRO establish an NRO-level systems engineer oriented to systems engineering work across programs with concern for the system of systems. The systems engineer would be the NRO-level architectural authority responsible for integrating NRO top-level systems, establishing architectural standards or "building codes," focusing on capabilities across the entire space architecture and providing the interface for coordinating with DUSD (Space) and the DoD Space Architect.

(U) SUMMARY

P&A's goal is to implement an objective, rigorous approach to corporate planning, independent program assessment, external interface for requirements and analysis, and NRO policy. The objective is to verify the requirements and performance basis for program actions prior to the commitment of resources and directly support Intelligence Community deliberations and DNRO decisions on critical programmatic and technical issues.

(U) RESOURCE MANAGEMENT

(U) Resource Oversight and Management

(U) Established in November 1995 at the urging of Congress, the NRO's Office of Resource Oversight and Management (ROM) is the single focal point for all NRO financial, budgetary, programmatic, and legislative matters. To achieve this unified focal point, ROM contains NRO's Legislative Liaison Office, its Resource Management Office (Comptroller), and the Office of Finance. The Associate Director of the NRO for Resource Oversight and Management reports directly to the DNRO and also serves as the Financial Management Executive (FME) for the NRO.

(U) ROM is structured to provide the maximum amount of information flow between ROM and the program offices, and between ROM and Congress. Program Resource Liaisons (PRLs), are ROM assets whose primary job is ensuring timely and accurate reporting between NRO elements and ROM, and that financial policies, procedures, and concerns are relayed to the programs. PRLs provide the technical expertise to help finance and budget personnel understand the impact budget actions will have on the programs. The legislative liaison officers ensure the same degree of communication exists between the NRO and Congress.

(U) ROM assumed the independent cost estimating role in July 1996 when it absorbed the SIGINT cost estimating staff. Now known as the NRO Cost Group, this staff supports the entire NRO with 20 years of cost estimating heritage. Using state-of-the-art estimating tools, the Cost Group offers unbiased, independent cost capabilities over a broad range of acquisition activities, including concept architecture decisions and source selection evaluation. Rigorous, consistent cost analysis applied NRO-wide will provide an even tighter match between program content and future budget requests. The Cost Group now is actively supporting major acquisitions in each NRO Directorate—with emphasis on emerging programs such as FIA,

NSCP, and IOSA Phase II—as well as source selections on several smaller programs. The Cost Group contributes directly to NRO acquisition reform through participation in the NRO Acquisition Center of Excellence (discussed below) and other initiatives, including Cost as an Independent Variable. Cost Group staffing increased in FY 97 to accommodate the instant workload expansions; it will require additional personnel in FY 98 to fulfill its expanding, NRO-wide mission.

(U) In FY 97, to achieve the necessary staffing for its congressional contact and financial missions, ROM hired a significant number of experienced finance and accounting personnel. In addition, ROM assumed control of the Financial Management Improvement Project Office (FMIPO). This group develops and implements NRO-wide financial management improvement initiatives, providing comprehensive financial management practices, and budgetary policies and procedures. As a long-term improvement to our financial management, FMIPO is implementing the Federal Financial Systems Program Office Desktop (FFS POD), which we selected as the best of several GSA-approved financial management systems, as the foundation for our Integrated Financial Management System. This system complies with all core financial systems requirements defined by Treasury and the Joint Financial Management Improvement Program. We will implement FFS POD in two phases. Phase One will reach initial operating capability (IOC) on 1 October 1997 and includes funds control, general ledger, disbursing, and accounts payable functionality. Phase Two implementation will include performance analyzer, contract management, and budget formulation and has an IOC of 1 October 1998. The NRO full operating capability (FOC) for automated financial activities is 1 October 1999.

(U) In FY 98, with its new personnel and capabilities in place, ROM will move ahead with the FMIPO program, thereby strengthening the internal financial integrity of the NRO. With a strengthened Comptroller and Legislative Liaison staff, ROM will also seek to establish an orderly, verifiable set of financial systems to present externally to both the DCI and Congress. To help the DNRO with future planning and to ensure a more efficient and effective use of our financial and programmatic resources, ROM will begin long-term strategic financial planning for the NRO.

(U) Acquisition Center of Excellence

(U) The Acquisition Center of Excellence (ACE) is an acquisition reform initiative founded on the NRO's vision of becoming the government's smartest, most efficient, and responsive buyer of best value goods and services for national, military, law enforcement, and counterintelligence customers.

(U) Under the ACE concept, the NRO will form a special organizational activity to provide program directors the necessary facilities, tools, training, and expertise to assist them in acquiring goods and services in a high-quality, streamlined manner. Under the management of the Director, Office of Contracts, and with funds provided by the program offices, the ACE will collocate an experienced staff of acquisition professionals from the contracting, cost and pricing, legal, and program/technical disciplines. The ACE staff will be dedicated to achieving the following objectives:

- Researching, evaluating and implementing acquisition best practices;
- Establishing and operating a dedicated facility(s) for conducting competitive source selections;
- Developing hardware/software tools and capabilities for streamlining the acquisition process;
- Aggressively developing electronic commerce and on-line acquisition library capabilities;

- Developing an array of training courses, seminars, and specialized workshops designed to increase the knowledge-base of NRO personnel in acquisition planning and execution;

- Providing timely, effective decision analysis support to management throughout the acquisition cycle; and

- Conducting forums, exchanges and conferences with industry in order to ensure their participation in and feedback on the NRO's acquisition system.

(U) The ACE will significantly strengthen the NRO's acquisition system by ensuring that a common, efficient focus is applied to acquisition policies, practices and capabilities. ACE will provide NRO program directors a centralized acquisition "tool box" of capabilities necessary for them to responsively procure the goods and services necessary to meet their mission requirements in the most cost-effective manner possible.