
OFFICE OF INSPECTOR GENERAL

ANNUAL WORKPLAN FISCAL YEAR 1999

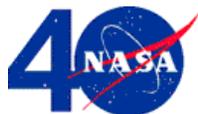


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Acronyms

AATT	Advance Air Transportation Technology	IFMP	Integrated Financial Management Project
AIS	Automated Information Security	IPA	Independent Public Accountant
ARC	Ames Research Center	IRS	Internal Revenue Service
AST	Advanced Subsonic Technology	ISS	International Space Station
ASTT	Aeronautics and Space Transportation Technology	IT	Information Technology
AXAF	Advanced X-ray Astrophysics Facility	ITS	Information Technology Security
CCD	Computer Crimes Division	JPL	Jet Propulsion Laboratory
CDDF	Center Directors' Discretionary Fund	JSC	Johnson Space Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	KSC	Kennedy Space Center
CFO	Chief Financial Officer	LaRC	Langley Research Center
CFR	Code of Federal Regulations	LeRC	Lewis Research Center
CIO	Chief Information Officer	MAF	Michoud Assembly Facility
COMSEC	Communications Security	MSFC	Marshall Space Flight Center
CRSPO	Commercial Remote Sensing Program Office	MVS/ESA	Multiple Virtual Storage/Enterprise Systems Architecture
CRV	Crew Return Vehicle	NACC	NASA Automated Data Processing Consolidation Center
CSOC	Consolidated Space Operations Contract	NAS	Numerical Aerodynamic Simulation
CTR	Civil Tiltrotor Project	NASA	National Aeronautics and Space Administration
DCAA	Defense Contract Audit Agency	NEPA	National Environmental Policy Act
DFRC	Dryden Flight Research Center	NMP	New Millenium Program
DOC	Department of Commerce	NOP	National Oceanographic Partnership
DoD	Department of Defense	NPDN	NASA Policy Directive
DOE	Department of Energy	NPG	NASA Procedures and Guidance
DS	Deep Space	NSTP	National Space Transportation Policy
ECS	EOSDIS Core System	NSTISSC	National Security Telecommunications and Information Systems Security Committee
EDCATS	Education Computer-Aided Tracking System	ODIN	Outsourcing Desktop Initiative for NASA
ELV	Expendable Launch Vehicle	OIG	Office of Inspector General
EOSDIS	Earth Observing System Data and Information System	OMB	Office of Management and Budget
EPA	Environmental Protection Agency	OPAC	On-line Payment and Collection
EVM	Earned Value Management	OS	Operating System
FAA	Federal Aviation Administration	P&A	Partnerships and Alliances
FAR	Federal Acquisition Regulation	P.L.	Public Law
FASA	Federal Acquisition Streamlining Act	PNGV	Partnership for a New Generation of Vehicles
FY	Fiscal Year	RCRA	Resource Conservation and Recovery Act
GAO	General Accounting Office	RLV	Reusable Launch Vehicle
GPRA	Government Performance and Results Act	RTTC	Regional Technology Transfer Centers
GSA	General Services Administration	SELV	Small Expendable Launch Vehicle
GSFC	Goddard Space Flight Center	SFOC	Space Flight Operations Contract
HEDS	Human Exploration and Development of Space	SIRTF	Space Infrared Telescope Facility
HHS	Health and Human Services	SPF	Shuttle Software Production Facility
HITS	Hughes Information Technology Systems	SSC	Stennis Space Center
HQ	Headquarters	SSFL	Santa Susana Field Laboratory
HSCT	High Speed Civil Transport	U.S.	United States
HSR	High Speed Research	USA	United Space Alliance
HST	Hubble Space Telescope	U.S.C.	United States Code
IAIA	Inspections, Administrative Investigations, and Assessments	WSTF	White Sands Test Facility
ICM	Interim Control Module		

Introduction

The Office of Inspector General (OIG) Annual Plan combines the planned work of all the OIG functions. For fiscal year (FY)1999, the Offices of Audits; Investigations; Inspections, Administrative Investigations, and Assessments (IAIA); and Partnerships and Alliances (P&A) will focus on issues that serve the needs of NASA, Congress, and the public.

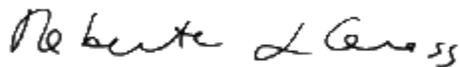
We will focus our planning and resources on the major NASA programs and activities, with special emphasis on safety, the security of NASA's information technology, and the Government Performance and Results Act. The NASA Administrator has established safety as the Agency's number one priority. We will support that priority by performing a number of audits and reviews on safety-related issues. As part of our focus on information technology, we established a Computer Crimes Division. This division is staffed with technically trained special agents and other specialists who use cutting-edge technologies and techniques to detect and prevent illegal acts with, and against, NASA computer systems. Additionally, OIG staff who are experienced in communications security systems work closely with NASA management to identify and improve the safeguards to those systems.

The Government Performance and Results Act (GPRA) of 1993 requires agencies to establish program goals and procedures to measure performance and to publicly report on progress. The purpose is to improve program efficiency and effectiveness. We will monitor NASA's implementation of GPRA by evaluating the goals, measures, and reporting as part of each individual audit and review planned for FY1999, where it is applicable.

This workplan provides an overview of the programs and issues on which we plan to focus our resources during FY 1999. We consider these issues to be both relevant and important to the Agency's strategic plan; however, our planning process is a flexible and evolving effort. Therefore, we will update our projects and this plan periodically to address emerging issues and problems, and to be responsive to the requests and concerns of Congress, NASA, and others. The most current workplan will be available through the OIG Internet homepage at <http://www.hq.nasa.gov/office/oig/hq/>

We have included our Performance Plan for FY 1999, the statement of our goals and metrics for accomplishing our work, as Appendix E to this workplan.

We welcome your suggestions for improving this document or for additional areas and issues to review. You may contact me or my staff directly (points-of-contact are listed in Appendix D) or you may leave the information on the OIG Hotline at 1-800-424-9183.



Roberta L. Gross
Inspector General

Section I — Organization and Operation

The NASA OIG is a diverse, multidiscipline workforce located at Headquarters and in field offices at all NASA Centers. During FY 1998, the OIG had an authorized budget of \$18.3 million and a total staff of approximately 199, including support personnel. The current organizational structure reflects an emphasis on Agencywide and programmatic issues and a greater use of partnering and collaborative efforts in performing our work. Matrix teams—staffed by the various disciplines within the OIG—perform many assignments. The use of these teams maximizes our resources and provides timely, effective products in a rapidly changing environment.

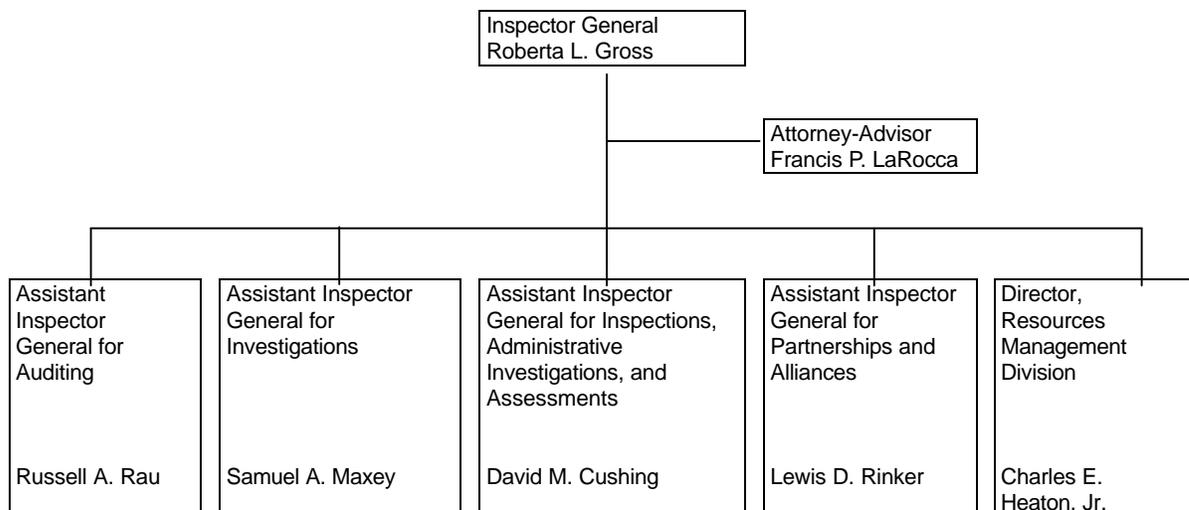
OIG Authority

The Inspector General Act of 1978, as amended, grants the OIG the administrative authority for conducting its work:

- To receive full access to all records and materials available to the Agency.
- To determine which audits, investigations, inspections, and reviews are necessary and issue the appropriate reports.
- To issue subpoenas for non-Federal records.
- To direct access to the head of the Agency.
- To receive employee and other complaints, protect sources, and when necessary, refer matters to the United States Attorney General.
- To hire employees, experts, and consultants and procure necessary equipment and services.
- To obtain assistance from other agencies, including Federal, state, and local governments.

To efficiently carry out its responsibilities, the NASA OIG has established four functional organizations: the Office of Audits; the Office of Investigations; the Office of Inspections, Administrative Investigations and Assessments; and the Office of Partnerships and Alliances.

NASA Office of Inspector General
Organization Chart



Office of Audits

The audit program is carried out by a staff of approximately 108 professional auditors who hold various professional certifications, including some Certified Public Accountants. To effectively focus its resources, the Office of Audits correlates its work with NASA's major programs and activities.

The audit program's primary purpose is to review Agency and contractor programs and operations to determine whether:

1. Financial and other information is reliable.
2. Internal controls are adequate and resources are safeguarded.
3. Appropriated funds are properly expended.
4. Operations are efficient and economical.
5. The intended results of programs and activities are achieved.

OIG audits are performed in accordance with government and professional standards, and usually result in written reports that summarize the work performed and recommend actions to correct significant problems. These reports are addressed to the Agency official(s) responsible for the subject matter. Copies of these reports are also distributed to other interested parties. The public may obtain copies by contacting the Assistant Inspector General for Auditing at the number shown in Appendix C, faxing a request to (202)358-3022, or by accessing the Audit Internet homepage at <http://www.hq.nasa.gov/office/oig/hq/audits.html>

Office of Investigations

The Office of Investigations is staffed with approximately 55 special agents having full law enforcement authority. The primary mission of this component is to conduct criminal and civil investigations of reported or suspected fraudulent acts by contractors, employees, and others that impact NASA programs and operations. The agents work very closely with other Federal law enforcement agencies and Federal prosecutors to detect, prosecute, and prevent these acts. Other OIG investigations concern matters affecting the integrity of NASA programs and personnel, such as corruption and environmental issues. Although much investigative emphasis is placed on major procurement fraud (particularly allegations of product substitution, cost mischarging, kickbacks, antitrust violations, and research misconduct), we have been increasing our involvement in the detection and prevention of computer-related crimes.

Because of its vast telephony, Internet, and space systems networks, NASA is vulnerable to cyber attacks. Our Computer Crimes Division (CCD) is staffed by trained, highly-skilled technical agents and other specialists who respond to those attacks. The members of CCD are assigned to each NASA Center and also staff a network operations center at Headquarters. Reactive response to cyber attacks requires that CCD work closely with Agency officials as well as with other law enforcement organizations. In addition to its investigative activities, CCD conducts outreach activities regarding the commission of cyber attacks. These activities include training Federal prosecutors regarding the type and handling of evidence with which they will be working in a cyber attack case, assisting other OIG community members to develop their own CCD units, and sharing technical knowledge with NASA's system administrators.

The OIG has taken assertive action to develop procurement fraud networking activities that we believe will sustain and improve the quality of our investigative referrals. These efforts include fraud briefings that target Government and contractor officials in procurement, quality assurance, financial management, auditing, and support functions. We also provide early alerts to Agency officials and others regarding management problems identified during investigations. These alerts highlight potential risks concerning safety, fraud, waste, or mismanagement and provide management the opportunity to institute corrective measures..

Inquiries regarding investigative reports must be submitted under the Freedom of Information Act. Such inquiries must be submitted in writing and either mailed to the Assistant Inspector General for Investigations at the Headquarters address listed in Appendix C, or faxed to (202)358-2767. Further information about the investigations program can be found by accessing the OIG Investigative Internet homepage at <http://www.hq.nasa.gov/office/oig/hq/investigations.html>

Office of Inspections, Administrative Investigations, and Assessments

The IAIA program is staffed with 14 analysts from various disciplines and backgrounds. The staff is augmented, as needed, with auditors, investigators, and other specialists to support its activities. The staff's primary purpose is to perform evaluations of Agency and contractor activities that require rapid response and reporting. The unit also conducts administrative investigations of non-criminal matters. The results of IAIA work—usually written reports—provide feedback to Agency officials when corrective or administrative actions are needed and also identify issues that are appropriate for expanded OIG audits and investigations. Interested parties may obtain copies of IAIA reports by contacting the Assistant Inspector General for Inspections, Administrative Investigations, and Assessments at the number shown in Appendix C, faxing a request to (202) 358-3022, or by accessing the OIG IAIA Internet homepage at <http://www.hq.nasa.gov/office/oig/hq/inspections/inspections.html>

Office of Partnerships and Alliances

Currently staffed with seven professionals, this program was established to review and assess NASA's partnerships and cooperative arrangements with other agencies, groups, and industry. They also perform joint audits and reviews with other agency Offices of Inspector General. The P&A work usually results in written reports to Agency officials summarizing the issue(s) and recommending appropriate corrective action, similar to OIG audit reports. Copies of P&A reports may be obtained by contacting the Assistant Inspector General for Partnerships and Alliances at the phone number shown in Appendix C, faxing a request to (202)358-3022, or by accessing the OIG P&A Internet homepage at <http://www.hq.nasa.gov/office/oig/hq/partnerships.html>

Agency Relationship with the OIG

NASA employees, as well as contractor and grantee employees, have certain responsibilities regarding the OIG. They should fully cooperate with OIG employees who are conducting official business and promptly notify the OIG of any suspected or actual fraud, mismanagement, and other wasteful or abusive practices or acts. Agency officials and supervisors should also be knowledgeable of their internal control responsibilities, and work to increase staff awareness of internal controls and OIG activities. Provisions of the "Whistleblower Act" and related statutes, as well as the OIG's authority to protect the confidentiality of sources under specific conditions, provide reasonable protections to those who report violations or problems.

Anonymous complaints are received telephonically through the 24-hour OIG Hotline at 1-800-424-9183. Written complaints should be mailed to: NASA Office of Inspector General, P.O. Box 23089, L'Enfant Plaza Station, Washington, DC 20026, or may be faxed to (202)358-2767. The OIG also maintains a Cyber Hotline on the World Wide Web at <http://www.hq.nasa.gov/office/oig/hq/hotline.html>

Section II—Description of the Workplan

This combined annual plan contains specific information on the audits, inspections, and other reviews planned by the OIG during FY 1999. We also expect to perform proactive investigative work in areas with potential vulnerabilities, especially procurement, environmental, and telecommunications activities.

In preparing this workplan, we identified major initiatives and issues—including safety, telecommunications, and Agency downsizing and reengineering—as strategic areas on which to focus our projected assignments. However, concerns of Congress, the Administrator, and others were also considered in the planning process. Based upon their experience and research, OIG program managers, supervisors, and staff members provided suggestions for potential audits and reviews.

NASA's dynamic environment, reduced budgets, advancing technology, and commercialization of the aerospace industry, are some of the factors that require us to respond rapidly to new issues. Therefore, this workplan is a flexible, evolving document. Due to emerging priorities and issues, some planned assignments may be delayed while new reviews not listed may be initiated. To provide our customers current information on our planning, the workplan will be updated as needed and made available on the NASA OIG homepage at <http://www.hq.nasa.gov/office/oig/hq/>

In addition to the planned new projects for FY 1999, the OIG will complete its ongoing assignments. These are referred to as “carryover” and are listed in Appendix B under each of the applicable Enterprise areas. Additional information on carryover assignments may be obtained by contacting the appropriate program area manager shown in Appendix D.

Appendix C to the plan is a list of some of the important OIG reports that we have issued for each Enterprise area.

Section III — Summary of Planned Projects Fiscal Year 1999

I. ENTERPRISE: EARTH AND SPACE SCIENCE

A. EARTH SCIENCE (Formerly Mission to Planet Earth)

Background NASA's Earth Science Enterprise is dedicated to understanding the total Earth system and the effects of natural and human-induced changes on the global environment. The unique vantage point of space provides information about the Earth's surface, atmosphere, ice, oceans, and other aspects that is obtainable in no other way. In concert with the global research community, the Earth Science Enterprise is developing the understanding needed to support complex environmental policy decisions that lie ahead.

The Enterprise employs a strategy that promotes extensive international collaboration and cooperation with other Federal agencies and the commercial sector. This Enterprise produces many benefits, including: (1) contributions to national and international assessments of the environment, (2) strengthening environmental education and public awareness (as in wide disbursement of data through the national information infrastructure), and (3) development of advanced technologies that improve scientific investigations and can be transferred to U.S. industry.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

We will continue our involvement in the Earth Science program by focusing on NASA's efforts to meet program objectives through obtaining Earth science data from commercial companies and establishing a viable commercial remote-sensing industry. We will also concentrate on NASA's efforts to successfully field the Earth Observing System Data and Information System (EOSDIS) Core System. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Earth Science Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Duplicate Funding of Commercial Remote Sensing Companies	Audits	HQ, SSC, GSFC	A-5
Program and Project Management on the EOSDIS Core System Contract	Audits	HQ, GSFC	A-5
National Oceanographic Partnership Program	Partnerships	HQ and Selected Centers	A-6

B. SPACE SCIENCE

Background The mission of NASA's Space Science Enterprise is to solve mysteries of the universe, explore the solar system, discover planets around other stars, search for life beyond Earth; and from origins to destiny, chart the evolution of the universe and understand its galaxies, stars, planets, and life. Various NASA Space Science programs and projects use space-based telescopes to observe the universe; space probes, orbiters, and landers to explore the planets; and Earth-orbiting satellites and deep space missions to study the Sun and its influence on the Earth. These programs and projects employ a strategy that dramatically lowers mission costs while preserving, to the greatest extent possible, mission performance. In keeping with NASA's goal of "faster, better, cheaper," these programs are exploring the acceptance of prudent risk, shortening development time, testing innovative approaches, streamlining management, and making changes to improve efficiency and effectiveness.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

We will continue our involvement in the Space Science program by focusing on major exploration programs, launch services, support services, and procurement issues at the Jet Propulsion Laboratory (JPL). The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Space Science Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Mars Exploration Program Office, Program Planning	Audits	HQ, JPL	A-6
JPL Management of Subcontract Program and Project Support	Audits	JPL and Selected Locations	A-7
Effectiveness of the New Millennium Program	Audits	JPL	A-7
Space Infrared Telescope Facility Schedule and Budget Controls	Audits	HQ, JSC, GSFC	A-8
Small Expendable Launch Vehicle Service Contract Planning and Management	Audits	KSC, GSFC, LeRC	A-8

II. ENTERPRISE: HUMAN EXPLORATION AND DEVELOPMENT OF SPACE

Background The Human Exploration and Development of Space (HEDS) Enterprise seeks to bring the frontier of space fully within the sphere of human activity to build a better future for all humankind. The mission of HEDS is to open the space frontier by exploring, using, and enabling the development of space and to expand the human experience into the far reaches of space. HEDS' goals include human missions of exploration to planetary and other bodies of the solar system. Goals

also include the expansion of scientific knowledge through use of the environment of space, safe and affordable access to space including human presence in space, sharing of the experience, and commercial development of space.

The International Space Station (ISS) and the Space Shuttle are research platforms to pave the way for sustained human presence in space. The ISS is the largest multinational science and engineering program in history and will vastly expand the human experience of living and working in space. Safe, reliable, low-cost transportation is crucial to the HEDS Enterprise goals. The Space Shuttle program is committed to flying safely, meeting the launch manifest, improving Shuttle supportability and reliability, and reducing cost. The upgrade program will enable Shuttle operations to meet ISS needs and human space exploration goals beyond 2012.

As part of NASA's downsizing and restructuring efforts, Space Communications programs and management responsibilities were placed within the HEDS Enterprise. Therefore, for planning and performing our work in that area, we have placed it under this section.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

Our planned work within the HEDS Enterprise during FY 1999 will continue to focus on critical issues in each of the three program areas including spare parts and logistical support, flight operations, and security. We also plan to evaluate the Crew Return Vehicle (CRV), contingencies for the Interim Control Module, and the development and integration of ISS research payloads. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

International Space Station Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
X-38 Crew Return Vehicle	Audits	JSC, KSC, DFRC	A-9
Spare Parts Quality Assurance	Audits	JSC, KSC, Contractor Locations	A-9
Space Station Interim Control Module	Audits	JSC, MSFC	A-10
Space Station Payloads	Audits	JSC	A-10
Spare Parts Costs	Audits	JSC, KSC, Contractor Locations	A-10
Security Planning for the X-38 Crew Return Vehicle	Inspections	HQ and JSC	A-11
Joint NASA/HHS Studies	Inspections	HQ and Selected Centers	A-11

Space Shuttle Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Space Flight Operations Contract Phase II	Audits	JSC, MSFC	A-11
Space Shuttle Program Logistics	Audits	JSC, KSC, MSFC	A-12
NASA/Air Force Space Command Partnership Council	Partnerships	HQ and Selected Centers	A-12

Space Communications Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Consolidated Space Operations Contract	Audits	JSC, GSFC, MSFC, JPL	A-13
Consolidated Space Operations Contract Security	Inspections	HQ, JSC	A-13
International Space Station Program Implementation of Communications Security and Automated Information Security Measures	Inspections	GSFC, JSC, KSC, MSFC	A-14

III. ENTERPRISE: AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY

For purposes of planning and conducting our work in this Enterprise, we have organized the planned projects into two areas: (1) Aeronautics and Space Transportation, and (2) Technology Transfer and Commercialization.

A. AERONAUTICS AND SPACE TRANSPORTATION

Background Aeronautics research and technology plays a vital role in ensuring the safety, environmental compatibility, and productivity of the air transportation system and in enhancing the economic health and national security. However, numerous factors, including growth in air traffic, increasingly demanding international environmental standards, aging aircraft fleet, aggressive foreign competition, and launch costs that impede affordable access and utilization of space, represent formidable challenges.

The mission of the Aeronautics and Space Transportation Technology (ASTT) Enterprise is to pioneer the identification, development, verification, transfer, application, and commercialization of high-payoff aeronautics and space transportation technologies. Through research and technology accomplishments, ASTT promotes economic growth and national security through a safe, efficient national aviation system and affordable, reliable space transportation. The plans and goals of the Enterprise directly support national policy in both aeronautics and space. ASTT works in alliance with its aeronautics and space transportation customers, including private industry, the university community, Department of Defense (DoD), Federal Aviation Administration (FAA), and other NASA Enterprises.

ASTT is also responsible for technology transfer and commercialization. This function is provided as an Agencywide service to ensure the wide, rapid transfer of NASA-developed technologies to U.S. industry for the social and economic benefit of all citizens.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

The OIG plans to continue to focus on the space transportation and technology development program areas. The space transportation program area is key to NASA's achieving its goal to reduce payload costs from \$10,000 to \$1,000 per pound within 10 years and another ten-fold decrease in the following decade. Completion of the Reusable Launch Vehicle (RLV) program is one of NASA's highest priority activities. We will also evaluate several aeronautical developmental projects that have significant implications on the U.S. and world aviation area. These include hypersonic and subsonic research efforts. NASA's technology development program is considered a long-term effort (25 years), but significant near-term results must be achieved and effectively measured. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Aeronautics and Space Transportation Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Reusable Launch Vehicle Phase III Decision Criteria	Audits	HQ, MSFC	A-15
Hypersonic Technology Program	Audits	LaRC	A-15
High Speed Research Program	Audits	HQ, LaRC, LeRC, ARC	A-16
Engineering Research and Technology Development on the International Space Station	Audits and Inspections	HQ and Selected Centers	A-16
NASA's Efforts with Industry, Universities, and the Private Sector to Develop High-Risk, High-Payoff Technologies	Audits, Inspections, and Partnerships	HQ	A-17
Integration/Coordination of RLV Technology Initiatives	Audits	HQ, MSFC	A-17
X-36 Research Aircraft	Audits	ARC, DFRC	A-18
Advanced Subsonic Technology Program	Partnerships	HQ and Selected Centers	A-18
Civil Tiltrotor Project	Partnerships	HQ and Selected Centers	A-19

B. TECHNOLOGY TRANSFER AND COMMERCIALIZATION

Background The ASTT Enterprise is also responsible for technology transfer and commercialization programs. These programs provide an Agencywide service to ensure the wide, rapid transfer of NASA-developed technologies to U.S. industry for the social and economic benefit of all citizens. A key component of this program area is the network of Regional Technology Transfer Centers (RTTCs), established by NASA in 1992. The six centers, located throughout the U.S.,

provide services to help match private industry technology needs and questions with the resources, technologies, and information available from NASA and other Federal research agencies.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover None.

Planned Projects

Planned work within this program area will focus on the effectiveness of NASA's technology transfer activities, especially the RTTCs, and efforts to prevent transfer of classified or sensitive information. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Technology Transfer and Commercialization Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Transfer of Human Space Flight Research and Technology Development to Government and Industry	Audits	HQ, JSC, MSFC	A-19
Regional Technology Transfer Centers	Partnerships	HQ and Selected Centers	A-20
Partnership for a New Generation of Vehicles	Partnerships	HQ and Selected Centers	A-20

IV. CROSSCUTTING FUNCTIONS

In addition to the major Enterprises and programs, NASA has a number of functions and activities that provide important Agencywide support and services. Because of their significance to achieving the overall NASA mission, the OIG performs reviews of these activities in addition to reviewing individual major programs. For purposes of our planning and organization, we have grouped these crosscutting functions into the following categories:

- Infrastructure and Support
- Environment and Safety Management
- Information Technology
- Financial Management

Some of the categories involve a number of different programs and activities, which are also broken out and discussed within the individual category.

Much of the OIG effort and resources planned for the crosscutting functions during FY 1999 are focused on information technology, safety, and procurement issues. This is due to both the substantial portion of the total NASA budget that these functions represent, their overall impact on the Agency, and the special emphasis placed on safety by the Administrator. Some background on each of the areas, and the planned new assignments, are provided in each of the following sections.

A. INFRASTRUCTURE AND SUPPORT

NASA's infrastructure and support activities continue to change as the Agency reinvents itself. All areas of infrastructure are affected including facilities, property and equipment, and human resources. Because procurement services impact virtually every NASA component and program, the initiatives to improve and simplify procurement make this area important. Changes within these activities are critical to NASA, since the activities continue to support each NASA Enterprise and the goals and objectives reflected in the NASA Strategic Plan.

1. PROCUREMENT AND INTERNATIONAL AGREEMENTS

Background Because NASA contracts for most of the goods and services needed to accomplish its mission, the procurement function remains a significant support activity. NASA's procurement obligations have averaged over 87 percent of its total annual budget. However, NASA's Office of Procurement has met significant reductions in personnel by meeting the resulting challenges with improved business practices and innovative procurement initiatives. The use of unique and innovative procurement procedures is key to their providing continued support for the NASA Enterprises and the goals and objectives of the NASA Strategic Plan.

International agreements are also significant to NASA. One goal of the National Space Policy is to promote international cooperative activities that are in the national interest. As a result, the number of NASA programs involving agreements with foreign partners is growing. NASA has entered into approximately 3,000 international agreements, involving programs and projects in every NASA Enterprise. While international cooperation is a worthy goal, NASA must balance such efforts with the increased potential for schedule delays, cost overruns, and possible compromise of sensitive technical information.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

The FY 1999 work planned for this program area will focus on procurement initiatives and high-risk contract areas. These would include electronic commerce, performance-based contracting, and specific support service contract areas. In addition, we will perform some oversight of contract audit services, and the management and administration of international agreements. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Procurement and International Agreements FY 1999 Planned Projects

Project	IG Program Area	Potential Locations	Appendix A Page No.
NASA's Use of Electronic Commerce to Streamline Procurement	Audits	HQ and Selected Centers	A-21
Contractors' Use of Consultant Services	Audits	JSC, KSC, MSFC, GSFC	A-21

Procurement and International Agreements FY 1999 Planned Projects (Continuation)

Project	IG Program Area	Potential Locations	Appendix A Page No.
NASA's Followup System for DCAA Reports and Recommendations	Audits	HQ and Selected Centers	A-22
Management and Administration of International Agreements at NASA	Audits	HQ and Selected Centers	A-22
NASA Sole Source Procurements	Audits	HQ, GSFC, JSC, LeRC, MSFC	A-22
Contractor Performance on NASA Support Services Contracts	Audits	HQ, ARC, MSFC, GSFC	A-23
NASA's Progress in Implementing Performance-Based Contracting and Metrics	Audits	HQ and Selected Centers	A-23
NASA's Use of Price Analysis in Procurement	Audits	HQ, GSFC, JSC, LeRC, MSFC	A-24
NASA's Use of Commercial Items	Audits	GSFC, JSC, LeRC, SSC	A-24
NASA's Management of Undefined Contractual Actions	Audits	GSFC, JSC, MSFC	A-25
NASA's Management of Contractor Acquired Facilities at Marshall Space Flight Center	Audits	MSFC	A-25
Non-Conforming and Substandard Parts and Materials	Proactive Investigations	To be determined	A-26
Contract and Subcontract Irregularities	Proactive Investigations	To be determined	A-26
NASA Leases	Proactive Investigations	To be determined	A-26
Grants and Research Contracts	Proactive Investigations	To be determined	A-27
NASA Peer Review Processes	Inspections	HQ and Selected Centers	A-27
Headquarters Service Contract Policy and Internal Review Team	Inspections	HQ, GSFC	A-27

2. FACILITIES AND EQUIPMENT

Background NASA's facilities and equipment comprise a large portion of the overall infrastructure needed to accomplish the Agency mission. At the end of FY 1997, NASA had total facilities, plant, and equipment valued at \$27.6 billion. This included facilities and equipment held and used by NASA employees as well as that held and used by NASA contractors.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

The work planned in the Facilities and Equipment program area during FY 1999 focuses on effective management and disposal of Agency equipment. We also plan to review Agency efforts to coordinate with the DoD to improve joint use of facilities and support services. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Facilities and Equipment FY 1999 Planned Projects

Project	IG Program Area	Potential Locations	Appendix A Page No.
Property Management and Controls for Contractor-Held Equipment	Audits	JSC, KSC, MSFC, GSFC	A-28
Hard Drive 99: Clearing Controlled Information from Excessed Microcomputers	Inspections	To be determined	A-28
Facilities and Personnel Inventory	Inspections	HQ and Selected Centers	A-28

3. OPERATIONS

Background There are a number of other crosscutting functions and activities that provide important support to the individual Enterprises and programs. For purposes of planning and managing our projects, we have grouped them under the category of Operations. These activities include, but are not limited to, human resources, education and training, printing and graphics services, logistics support, and security operations.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover None

Planned Projects

The work planned in this program area during FY 1999 includes reviews of physical security and the badging process, employee disciplinary actions, and educational programs. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Operations FY 1999 Planned Projects

Project	IG Program Area	Potential Locations	Appendix A Page No.
NASA Badging Program and Physical Access Controls	Inspections	HQ, JPL, JSC, LaRC, MSFC	A-29
Effectiveness of NASA Disciplinary Actions	Inspections	HQ and Selected Centers	A-29
NASA Chief Scientist	Inspections	HQ	A-30
NASA Academic Programs	Partnerships	HQ and Selected Centers	A-30

B. ENVIRONMENT AND SAFETY MANAGEMENT

1. ENVIRONMENT

Background Like non-Federal entities, NASA must comply with Federal and state environmental laws. The Executive Order on Federal Compliance With Pollution Control Standards states that, “The head of each agency is responsible for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution with respect to Federal facilities and activities under the agencies control.” The Environmental Protection Agency (EPA) expects the most expeditious means to be used in achieving compliance and obtaining funds. To help accomplish NASA’s goals for the environment, the NASA Administrator has prepared a comprehensive strategy that will focus on areas that provide a frame of reference for all Agency environmental efforts.

NASA recognized that significant environmental problems and issues exist within the Agency when it identified environmental issues as being high risk or significant concern for its internal controls. Local, state, and Federal laws and regulations are becoming more stringent, and non-compliance can lead to sanctions. Further, the local communities surrounding NASA installations expect NASA to protect and enhance the environment.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

In the past 12 months, OIG audit efforts have broadened to ensure coverage of some of the key objectives contained in the NASA Administrator’s environmental strategy document for the future. Areas audited included hazardous waste management and contaminated site clean up, recycling and affirmative procurement, potentially responsible party identification and cost sharing, and contractor compliance with environmental clause provisions. Our planned FY 1999 work will continue in these areas with an additional focus on the adequacy of the basic processes that NASA has established to ensure compliance with environmental laws and regulations. We will also address other areas, such as sale of hazardous material to the public. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Environment Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
National Environmental Policy Act Process	Audits	KSC, SSC, JSC	A-30
Sale of Hazardous Material to the Public	Audits	JSC, KSC, MSFC	A-31
Consolidation of Recycling and Waste Collection Efforts at Colocated Facilities	Audits	KSC, LaRC, WFF, MSFC	A-31
Cost Sharing for Environmental Cleanup Efforts	Audits	HQ and Selected Centers	A-32
RCRA Cleanup Costs	Audits	JSC, KSC, MAF, SSFL, WSTF	A-32
Proactive Environmental Study	Proactive Investigations	To be determined	A-33

2. SAFETY AND MISSION ASSURANCE

Background The NASA Administrator has stated that safety is the Agency's highest priority, and that it is imperative that NASA be the "world leader" in safety. The planned direction of the safety effort is to address impacts to the general public, humans in space, aircraft, and robotics missions, respectively. Although NASA is doing well in comparison to the industry model, the Dupont Corporation, the Agency can improve. In addition, contractors working with NASA are expected to address safety with the importance ascribed by the Agency.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover None.

Planned Projects

NASA is planning the actions to attain its goal of becoming the world leader in safety. To assist the Agency in attaining that goal, we plan to conduct reviews of the basic program components that we believe contribute to goal achievement. We will follow the Agency's lead and focus on human safety. NASA has taken a strong position on all aspects of safety, including the safety of the astronauts, the workforce, and the spacecraft. Efforts to improve safety are also expected to impact quality within the Agency. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Safety and Mission Assurance Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
NASA Emergency Preparedness Program	Audits	ARC, LeRC, MSFC, JPL	A-33
NASA Safety Program Management	Audits	JPL, KSC	A-33

Safety and Mission Assurance Planned Projects FY 1999 (Continuation)

Project	IG Program Area	Potential Locations	Appendix A Page No.
NASA Safety Risk Assessment	Audits	HQ and Selected Centers	A-34
NASA Safety Variance: Waivers and Deviations on Shuttle Flights	Audits	JSC, KSC, MSFC	A-34

C. INFORMATION TECHNOLOGY

For OIG purposes, this section combines two program areas of information technology (IT) within NASA:

- Reviews and audits by our IT audit staff of technical aspects of NASA and contractor automated systems, software, and related aspects, which are referred to as Information Assurance
- Reviews and audits of NASA's Information Technology program (Managed by Ames Research Center (ARC) with the purpose of improving automated systems and related areas through research and development.)

1. INFORMATION ASSURANCE

Background NASA is one of the largest users of information technology in the Federal Government. Current and evolving NASA programs rely heavily on information technology to collect, analyze, disseminate, and store large amounts of administrative, scientific, and engineering information. The OIG Information Assurance staff conducts audits of general and application controls for NASA's major information systems. General controls are audited to determine whether the environment in which a NASA application is processed maintains adequate security and integrity controls. Application controls are audited to determine whether the automated and manual controls that are in place are adequate and working as intended in existing NASA production systems.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

Planned projects within the Information Assurance program area for FY 1999 will focus on the Year 2000 (Y2K) conversion and the adequacy of security and integrity in major information systems as implemented through operating system controls. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Information Assurance Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
UNIX Operating System Security and Integrity	Audits	ARC, LeRC, GSFC, KSC, JPL	A-35
MVS/ESA OS/390 Operating System Integrity and Security	Audits	JSC, MSFC	A-35
Security Software Implementation RACF and ACF2	Audits	JSC, MSFC	A-36
Checkout and Launch Control System Migration	Audits	KSC	A-36
Information Technology Security Staff Qualifications, Training, and Development	Inspections	HQ, LeRC	A-37

2. INFORMATION TECHNOLOGY PROGRAM

Background NASA's mission depends on properly managed information resources, including information computing, telecommunications hardware and software, and the related support services. Constrained resources require NASA managers to acquire, manage, and use information resources effectively and efficiently in supporting the Agency's operations and programs. NASA's strategic Enterprises will continue to drive the Agency's information technology program.

The Clinger-Cohen Act of 1996 (formerly the Information Technology Management Reform Act) vested individual Federal agencies with increased responsibility, authority, and accountability for information technology management. The Act also gave Agency Chief Information Officers (CIOs) the responsibility for improving management of, and accountability for, information technology.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

Planned projects within the Information Technology Program area for FY 1999 will focus on NASA's Y2K efforts in the renovation, validation, and implementation phases; systems development; and information technology acquisitions. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Information Technology Program Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Year 2000 Program Implementation Phase	Audits	HQ and Selected Centers	A-37
Systems Development	Audits	HQ and Selected Centers	A-37
Computer Hardware and Software Maintenance	Audits	HQ and Selected Centers	A-38
Information Technology Contracting Requirements	Audits	HQ and Selected Centers	A-38
Implementation of the Clinger-Cohen Act	Audits	HQ and Selected Centers	A-38

D. FINANCIAL MANAGEMENT

Background Financial management within NASA is the responsibility of the Chief Financial Officer (CFO)/Comptroller. This includes planning, analysis, justification, control, and reporting of NASA resources as well as developing and maintaining an integrated NASA budgeting, accounting, and financial management system. The CFO/Comptroller is also responsible for preparing NASA's financial statements and serves as a primary point of contact for audits of those statements.

The CFO Act of 1990 (the Act) established the legal framework for improved Federal financial management. The Act requires agencies to prepare financial statements and for the agency's OIG (or independent public accounting firm selected by the OIG) to audit these statements. In addition to auditing the financial statements (or overseeing the independent public accounting firm's audit), the OIG also performs reviews, inspections, and audits of the other aspects of NASA financial management, including implementing required legislation, accounting for Agency assets, and other matters.

Prior Work

Important OIG projects completed in this program area are listed in Appendix C.

Carryover

A brief description of ongoing assignments in this program area is provided in Appendix B.

Planned Projects

A public accounting firm will audit NASA's FY 1998 financial statements under a contract. The OIG will assist in this audit by monitoring the contractor's performance and providing technical advice and assistance. The OIG audit staff will focus its other efforts in financial management on evaluating NASA's implementation of legislation, such as GPRA and Federal Financial Management Improvement Act of 1996. We will also evaluate the effectiveness of some internal financial improvement initiatives. The following table lists the projects planned for FY 1999 in this program area. Details on the projects are contained in Appendix A.

Financial Management Planned Projects FY 1999

Project	IG Program Area	Potential Locations	Appendix A Page No.
Contract Payments Electronic Funds Transfer and Controls	Audits	GSFC, LaRC, MSFC	A-39
Transactions by Others	Audits	HQ, GSFC, MSFC	A-39
Reimbursable Pricing	Audits	GSFC, JPL, LeRC	A-40
Debt Collection Management	Audits	GSFC, JSC, KSC	A-40
NASA Reporting to IRS	Audits	GSFC, JSC, MSFC	A-41
Obligations Management Validity and Timing	Audits	HQ	A-41
IFMP/Security and Internal Controls Working Group	Audits	HQ	A-41

Appendix A — Details on Planned Projects for Fiscal Year 1999

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Appendix A — Details on Planned Projects for Fiscal Year 1999

I. ENTERPRISE: EARTH AND SPACE SCIENCE

A. EARTH SCIENCE

Duplicate Funding of Commercial Remote Sensing Companies [Audits]

Potential Locations: HQ, SSC, GSFC

In February 1997, the Acting Associate Administrator, the Center Directors for Goddard Space Flight Center (GSFC) and Stennis Space Center (SSC), and NASA's Chief Technologist

signed a memorandum defining the SSC's role as the lead Center for commercial remote sensing. SSC's role is to support the development of a commercial remote sensing industry which can contribute to long-term Earth Science strategic goals. One of these goals is to transfer Earth Science technology and data applications knowledge to industry. Another goal is to accelerate the development of a preeminent U.S. remote sensing industry infrastructure for the purpose of: (1) developing new ways of doing business with U.S. companies that reduce the cost and extend the benefits of NASA remote sensing science and technology programs, and (2) promoting U.S. industrial leadership in the commercial remote sensing area. To accomplish these goals, the SSC Commercial Remote Sensing Program Office (CRSPO) has initiated several programs and projects. A previous NASA OIG audit of SSC's Earth Science commercial data buy program showed that several companies were participating in multiple programs supported by the CRSPO.

Objective

The objective is to determine whether SSC's CRSPO is incurring unnecessary costs by funding the same product or service under multiple commercial remote sensing programs and projects.

Program and Project Management on the Earth Observing System Data and Information System Core System Contract [Audits]

Potential Locations: HQ, GSFC

The EOSDIS Core System (ECS) will provide planning and scheduling, command and control, product generation, information management, and data archiving and distribution capabilities for the EOS program. In 1993, NASA awarded Hughes

Information Technology System (HITS) a \$766 million cost-plus-award-fee contract to design, develop, integrate, maintain, and operate the ECS.

The first version of the ECS (Version 1) was scheduled to be delivered in January 1997, to support the archival and management of data from two EOS instruments. Because the contractor failed the test readiness review of Version 1, NASA issued a stop work order for developing software unique to supporting the specific EOS mission. NASA restructured the contract to relieve HITS of the responsibility for Version 1 and to focus on the second phase, or Version 2 of the project. Version 2 will support the launch of the EOS AM-1 and Landsat-7 spacecraft that are scheduled to be launched in 1998.

The contractor continues to have performance problems and has not received any award fee since the restructure. Continued cost and schedule problems could jeopardize future EOS missions as well as impact the launch services manifest.

Objective

The objective is to determine why problems continue on the ECS contract. Specifically, we will examine both NASA and contractor program and project management to determine causes for continued cost and schedule problems.

**National Oceanographic Partnership Program
[Partnerships]**
Potential Locations: HQ and Selected Centers

P.L. 104-201, September 23, 1996, directed the Secretary of the Navy to establish the National Oceanographic Partnership (NOP) program. The program has two purposes. The first is to promote

national goals of security, economic development, quality of life, education and communication through improved knowledge of the ocean. The second is to coordinate and strengthen oceanographic efforts by identifying and carrying out partnerships among Federal agencies, academia, industry and other members of the oceanographic scientific community. The NOP is to report annually to Congress. The NASA Administrator is a designated member of the National Ocean Research Leadership Council. The Council's responsibilities include reviewing, selecting, identifying, and allocating funds for partnering projects for implementation under the NOP program.

Objectives

The objectives are to assess the effectiveness of NASA's NOP partnering activities, participation, and accomplishments. We will:

- Assess program relationship to NASA's Earth Science program.
- Validate the activities reported in the required annual plan.
- Determine compliance with required reporting requirements.

B. SPACE SCIENCE

**Mars Exploration Program Office, Program
Planning [Audits]**
Potential Locations: HQ, JPL

In July 1994, the Mars Exploration Program Office was formed at JPL to integrate efforts in the robotic exploration of Mars. The two major elements of the program are Mars Pathfinder and

the Mars Surveyor program. The Mars Surveyor program was established following the loss of Mars Observer in 1993. The first mission of the Mars Surveyor program, Mars Global Surveyor, will carry six of the eight Mars Observer instruments. The other two instruments are planned for launch, one later in 1998 and the other in 2001.

The program, which began in 1994, had a mission to conduct a 10-year series of flights and obtain a detailed understanding of Mars. The program expanded in 1998 and includes a long-term focus aimed at collecting samples during flight missions. Current budgets range from \$200 to \$300 million annually with projected budgets approaching \$500 million annually.

Objectives

The objectives are to assess program planning in relation to the Mars Program Strategic Plan goals. Specifically, to determine whether:

- The Mars Exploration Program Office has adequately planned to meet its strategic plan goals.

- Planned budgets are adequate to meet strategic goals.
- The Mars Exploration Program Office has adequately planned to develop the technology needed to meet its strategic goals.

JPL Management of Subcontract Program and Project Support [Audits]

Potential Locations: JPL, Subcontractor Locations

JPL spends about \$400 million annually in procurement activities. NASA Headquarters direction requires JPL to subcontract for the majority of its satellite production needs. JPL is also subcontracting for some research and

development effort. Increased subcontracting requires effective and efficient monitoring. Recently, some subcontractor-provided hardware and software at JPL has failed and thereby affected program results. For example, the Mars Observer mission was lost due to a valve malfunction, the Mars Global Surveyor mission experienced a solar panel malfunction that delayed its mission, and the Deep Space-1 (DS-1) mission experienced late delivery of electronics and flight software.

Objectives

The objectives are to determine whether JPL is managing subcontractors effectively and efficiently to ensure program objectives are met. Specifically, to determine whether JPL:

- Develops an acquisition strategy that addresses the program's requirements.
- Executes subcontracts according to the acquisition strategy.
- Monitors subcontractor performance to ensure cost and technical requirements are met.

Effectiveness of the New Millennium Program [Audits]

Potential Locations: JPL

By taking aggressive risks in smaller, faster, and cheaper technology validation missions, the New Millennium Program (NMP) is designed to reduce the risk for tomorrow's missions that use

new technologies for the first time. The NMP has an annual budget of \$90 million and is managed by JPL to support both Earth and Space Science programs. The NMP will provide a focused approach to technology development by selecting promising technologies emerging from various programs (of government, industry, academia, non-profit organizations). The program's efforts to demonstrate and validate technologies in space flight will enable those technologies to come to fruition in a more cost-effective, less-risky timeframe. Currently, four deep space missions and two Earth orbiting missions are planned. The first of these missions, DS-1, will test several new technologies and gather science data during a fly-by of an asteroid, the planet Mars, and a comet. The DS-1 project has already experienced difficulties that postponed its launch date from July 1998 to October 1998.

Objectives

The objectives are to determine:

- Whether the NMP is effectively managed to achieve its stated results.
- The cause of the DS-1 launch delay and evaluate the management actions taken to attain the new launch date.
- How lessons learned will benefit future NMP missions.

Space Infrared Telescope Facility Schedule and Budget Controls [Audits]

Potential Locations: HQ, JSC, GSFC

windows available in the infrared portion of the electromagnetic spectrum. In 1994, NASA imposed a project cost ceiling of \$400 million. Rather than descoping the original SIRTf, scientists and engineers redesigned the project. The cost for design and development of SIRTf is currently capped at \$458 million. Launch is currently scheduled for FY 2002. JPL is responsible for managing the SIRTf project, which represents a bridge to NASA's new Origins Program. The Origins Program seeks to answer fundamental questions about the birth and evolution of the universe.

The Space Infrared Telescope Facility (SIRTf) is the fourth and final element of NASA's Great Observatories whose purpose is to explore the nature of the cosmos through the unique

Objectives

The objectives are to determine whether:

- Controls are in place to manage the schedule and budget of SIRTf.
- Proposed costs associated with every element of SIRTf are realistic.
- Lessons learned information is being gathered and shared to lay the groundwork for the Origins Program.

Small Expendable Launch Vehicle Service Contract Planning and Management [Audits]

Potential Locations: KSC, GSFC, LeRC

other Centers is expected to be complete by October 1998. In its role as lead Center, KSC planned to award multiple Small Expendable Launch Services (SELV II) contracts during FY 1998 to provide launch services for NASA and NASA-sponsored small-class payloads. NASA anticipates up to 16 missions over the 5-year period of performance of these contracts. Generally, these small-class payloads will support the goals and objectives of NASA's Earth Science and Space Science Enterprises.

NASA has consolidated expendable launch vehicle (ELV) management and acquisition of launch services at Kennedy Space Center (KSC). The transition of ELV functions and services from

The intent of this procurement is to award multiple, indefinite delivery/indefinite quantity contracts. The resulting contract(s) will also require performance of non-standard services and special task assignments in support of launch services. All contract line items are firm-fixed priced, except the special task assignments. NASA experienced problems with the first SELV contract including failed and delayed launches. The SELV II contract(s) must be designed to ensure mission success. In addition, maintaining expertise required to perform the launch vehicle production insight and launch vehicle systems design knowledge during and after transition to KSC is critical to success of the contract and the program. Estimated FY 1999 funding requirements for ELV support are \$31.5 million.

Objectives

The objectives are to determine whether the SELV II contract is properly planned and managed. Specific objectives are to determine whether:

- The contract is properly designed to ensure mission performance.
- Adequate competition is achieved.
- Management controls to maintain contract baseline price and schedule are adequate.
- Management oversight is adequate during and following transition to KSC.

II. ENTERPRISE: HUMAN EXPLORATION AND DEVELOPMENT OF SPACE

A. INTERNATIONAL SPACE STATION

X-38 Crew Return Vehicle [Audits]

Potential Locations: JSC, KSC, DFRC

ISS partnership agreements call for the U.S. to provide a CRV for use in the event of crew member illness or injury, ISS catastrophic failure,

or Space Shuttle unavailability to perform resupply or crew change out. The X-38 is the prototype of the CRV. NASA will build the prototype, conduct initial flight tests, then turn over production to a contractor. The X-38/CRV estimated development, production, and operations costs are \$822 million with delivery of the CRV to the ISS scheduled for March 2003. Because of ISS budget limitations, operational CRV development was postponed until after the start of ISS assembly. A modified Russian Soyuz vehicle will serve as a CRV until assembly is complete. The Cost Assessment and Validation Task Force on the ISS recently addressed CRV urgency. The task force recommended merging the X-38 and CRV development programs, accelerating the start of CRV to FY 1999, and increasing the budget by \$120 million.

Objectives

The objectives are to determine whether:

- The X-38/CRV is on schedule.
- The project plan is feasible.
- Prototype flight testing has produced the desired results.
- Space Shuttle manifesting and payload processing plans at the launch site are indicative of timely and effective delivery to the ISS.
- The CRV will include the common requirements identified by the studies conducted to define the vehicle.

Spare Parts Quality Assurance [Audits]

Potential Locations: JSC, KSC, Contractor Locations

Spare parts are acquired from, and by, NASA prime contractors and subcontractors. NASA's Parts Policy (NPD 8730.2) is to control risk and enhance reliability in NASA space flight and

critical ground support systems. Enterprise Associate Administrators and Center Directors are to assure Center parts management is consistent with the quality management system contained in NPD 8730.2 and NASA Procedures and Guidelines (NPG 5300.4). The ISS and the Space Shuttle programs will spend approximately \$208 million on spare parts in FY 1999. The need to control risk and enhance reliability of spare parts is essential to the success of these programs.

Objectives

The objectives are to evaluate whether spare parts for the ISS and Space Shuttle meet acceptance procedures. Specifically, we will evaluate:

- Whether the ISS and Space Shuttle programs are effectively implementing NPD 8730.2.
- The effectiveness of acceptance testing.
- The appropriateness of actions taken with nonconforming items.

Space Station Interim Control Module [Audits]**Potential Locations: JSC, MSFC**

schedule. The ISS program is purchasing an Interim Control Module (ICM) from the U.S. Naval Research Laboratory as part of these contingency plans. The purpose of the ICM is to ensure that sufficient attitude and reboost capability is available in the station's assembly sequence. The ICM also potentially provides additional propellant capability. The ICM was initially targeted for possible launch in February 1998. The launch was subsequently switched to May 1999. The ISS program is looking at various configurations of the ICM, including options on interfaces with other parts of the ISS. The ICM was funded as a separate line item in NASA's Human Space Flight budget with an FY 1997 amount of \$300 million and an FY 1998 amount of \$50 million.

The ISS Program Office has established contingency plans in the event that Russia does not provide the station's service module on

Objectives

The objectives are to evaluate the planning process for the ICM, including:

- The options considered for the ICM module.
- The cost of the ICM, including the impact of changing configurations and functions of the ICM, as well as the impact on staff and other projects.
- The funding process for the ICM and whether consideration was received or will be received from Russia for the additional cost to NASA.

Space Station Payloads [Audits]**Potential Locations: JSC**

on board the ISS. In response, the ISS Program Office established the Space Station Payloads Office and consolidated all functions related to payload development, integration, and operations. The Space Station Payload Office: (1) provides the research communities a single point of contact for payload and research activities aboard the ISS, (2) increases program attention to the design and development of Space Station payload hardware, (3) provides for the horizontal integration of requirements across all payload hardware, and (4) improves program visibility to the payload and research communities.

In March 1996, the ISS Program Office was assigned cost, schedule, and technical performance responsibility for the research payloads to be flown

Objectives

The objectives are to determine whether the Space Station Payload Office is operating effectively to achieve program objectives. Specifically, to determine whether:

- The design and development of payload hardware is on schedule and within planned costs.
- ISS requirements are being horizontally integrated across all payload hardware.
- Criteria have been developed regarding customers, payloads, reimbursement, security, and payload delivery to and return from the ISS.

Spare Parts Costs [Audits]**Potential Locations: JSC, KSC, Contractor Locations**

Shuttle with respect to meeting flight manifest requirements. Spare parts are acquired from and by NASA prime contractors and subcontractors.

For FY 1999, the ISS and Space Shuttle programs plan to spend \$208 million on spare parts. Spare parts are critical to the Space Station and Space

Objectives

The objectives are to evaluate prices for high and low-cost spare parts for the Space Station and Space Shuttle programs. Specifically, to:

- Determine whether spare parts prices were fair and reasonable.
- Evaluate justification for identified unusual spare parts cost growth.
- Examine internal controls in the acquisition process.

Security Planning for the X-38 Crew Return Vehicle [Inspections]

Potential Locations: HQ, JSC

The X-38 project involves the development of an innovative prototype CRV or “lifeboat” for the ISS that may also find use as an international “people and luggage” future space transport. The project also is aimed at developing a vehicle design that could be modified for other uses, such as a possible joint U.S. and international human spacecraft that could be launched on the French Ariane 5 booster launch vehicle.

The X-38 project involves the development of an innovative prototype CRV or “lifeboat” for the ISS that may also find use as an international “people and luggage” future space transport. The

Objectives

The objectives are to determine whether:

- NASA management has identified necessary security requirements in the design of the X-38.
- Communications and computer security considerations have been addressed to deal effectively with potential risks and threats through application of security lessons learned from prior projects.

Joint NASA/HHS Studies

[Inspections]

Potential Location: HQ, Selected Centers

Both NASA and the Department of Health and Human Services (HHS) conduct extensive studies of health and psychology issues. These studies conducted could apply to the astronaut corps, particularly as they relate to long-duration flight, such as flights on the ISS. In an era of budgetary constraints, it is important that NASA appropriately leverage its scarce resources by teaming with other agencies to conduct vital research of mutual benefit.

Both NASA and the Department of Health and Human Services (HHS) conduct extensive studies of health and psychology issues. These studies conducted could apply to the astronaut corps,

Objectives

The objectives are to determine whether:

- There is adequate cooperation and interaction between NASA and HHS in funding and conducting these studies.
- There is an adequate infrastructure to ensure meaningful dialogue between the two agencies regarding issues that need further study and the sharing of information on previous applicable studies.

B. SPACE SHUTTLE

Space Flight Operations Contract Phase II [Audits]

Potential Locations: JSC, MSFC

The Space Flight Operations Contract (SFOC) Phase II implementation encompasses consolidation of as many as 13 Johnson Space Center (JSC) Space Shuttle program support contracts and Marshall Space Flight Center (MSFC) Space Shuttle program element contracts. Phase II continues the effort to operate the program within available financial resources, while increasing the

The Space Flight Operations Contract (SFOC) Phase II implementation encompasses consolidation of as many as 13 Johnson Space Center (JSC) Space Shuttle program support

extent of program transition to the contractor, United Space Alliance (USA). Integrating the MSFC contracts into the SFOC is particularly challenging based on the contract functions, geographic dispersion of the contractors, and the significant dollar value (\$1.077 billion in FY 1997) of the contracts. The Space Shuttle program's effectiveness requires that the Phase II contracts planned for incorporation into the SFOC are still appropriate inclusions, and that awards are based on proposals that meet defined criteria.

Objectives

The objectives are to evaluate whether:

- NASA's goals for Phase I were met while achieving significant efficiencies.
- The Phase II contracts are still appropriate inclusions into the SFOC.
- JSC's Phase II budget estimate is realistic.

Space Shuttle Program Logistics [Audits]

Potential Locations: JSC, KSC, MSFC

The National Space Transportation Policy (NSTP) and the NASA's implementation plan identify the:

(1) relationship between the Space Shuttle and the next generation system, (2) Y2K decision point as to Space Shuttle discontinuance, and (3) potential for production of a fifth Orbiter. NASA's consolidation of Space Shuttle operations into the SFOC with USA increases USA's logistics functions and responsibilities which previously were accomplished by JSC engineering, KSC logistics, Rockwell logistics, and Rockwell engineering.

Objectives

The objectives are to determine whether:

- Space Shuttle program logistics planning and accomplishment incorporate the NSTP variables.
- Requirement determinations reflect desired service level or stock objectives.
- Metrics provide meaningful management data to assess logistics performance.

NASA/Air Force Space Command Partnership Council [Partnerships]

Potential Locations: HQ, Selected Centers

On February 28, 1997, NASA signed a memorandum of agreement with the Air Force Space Command, outlining functions of the NASA/Air Force Space Command Partnership

Council (Council). The purpose of the Council is to achieve efficiencies, risk reduction, and better understanding of plans and activities of mutual interest. Anticipated results might include: streamlining operations costs, cross-use of facility capabilities, consolidation of redundant facilities, sharing of support services, and leveraging of science and technology investments. The Council is cochaired by the Air Force Space Command Commander and the NASA Administrator. The Council coordinates its activities with the Aeronautics and Astronautics Coordinating Board.

Objectives

The objectives are to assess:

- The Council's cooperative efforts in achieving activities of mutual interest.
- The results and accomplishments for selected joint efforts in achieving improved services and cost savings for NASA and the Air Force.

C. COMMUNICATIONS

Consolidated Space Operations Contract [Audits]

Potential Locations: JSC, GSFC, MSFC, JPL

Space communications is an area that is undergoing change. Previously, NASA's space communication activities were performed by each respective Center. However, the Space Operations

Management Office was created to have one contractor operate all of NASA's space communications activities under the Consolidated Space Operations Contract (CSOC).

The CSOC includes nearly all communications systems at GSFC and MSFC. In addition, CSOC encompasses the entire Advanced Multi-Mission Operations System, part of the Deep Space Network at JPL, and part of the Mission Control Center at JSC. NASA is scheduled to award the contract by October 1, 1998. NASA currently spends approximately \$2.25 billion for many of the services that CSOC will ultimately provide.

Objectives

The objectives are to determine whether the CSOC will satisfy NASA's communication needs. Specifically, to determine whether the CSOC:

- Provides reliable, quality mission and data services at a significantly reduced cost.
- Moves end-to-end mission and data service responsibility and accountability to industry.
- Implements an integrated architecture that reduces overlap, eliminates unnecessary duplication, and reduces life-cycle costs.
- Defines streamlined processes that minimize intermediaries required to define requirements and deliver services.
- Adopts private sector commercial practices and services.

Consolidated Space Operations Contract Security [Inspections]

Potential Locations: HQ, JSC

The CSOC, the Agency's effort to consolidate Agencywide space operations services and support in a single contract, will include security

management activities for the information technology security (ITS) and communications security (COMSEC) disciplines.

Objectives

The objectives are to:

- Determine whether staff responsible for developing the security management portion of the CSOC contract has anticipated potential threats and risks and has solicited program expertise from appropriate ITS and COMSEC experts.
- Assess whether CSOC security management planning effectively uses NASA ITS and COMSEC program capabilities.

**International Space Station Program
Implementation Of Communications Security
and Automated Information Security Measures
[Inspections]**

**Potential Locations: HQ, GSFC, JSC, KSC,
MSFC**

Information Systems Security Organization has been providing technical advice and assistance to resolve the space COMSEC issues as well as respond to a growing number of ISS related automated information security (AIS) problems.

NASA has been working to reduce identified communications security risks of the planned command and control uplink for ISS. Protection techniques are required to ensure authenticity of commands, and to protect against electronic “spoofing.” The National Security Agency

Objectives

The objectives are to determine whether NASA:

- Has accurately identified COMSEC and AIS requirements necessary for mission assurance and safe ISS operation.
- Is effectively implementing appropriate processes and safeguards.

III. ENTERPRISE: AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY

A. AERONAUTICS

Reusable Launch Vehicle Phase III Decision

Criteria [Audits]

Potential Locations: HQ, MSFC

One of the primary goals of the RLV program is to make an “informed decision” for proceeding with Phase III, the development of a commercial RLV. Prior to the June 1996 approval for NASA

to proceed with Phase II of the program, NASA and the Office of Management and Budget (OMB) had agreed upon 10 specific criteria that would be used in making the decision to proceed into Phase III. The X-33 vehicle was to address these criteria adequately and reduce program risk accordingly before NASA would proceed with Phase III. According to MSFC officials, the X-33 contractor, Lockheed Martin Skunk Works (Lockheed), replaced the original criteria with 25 new criteria. Since NASA selected Lockheed as the recipient of the X-33 cooperative agreement, this action apparently constituted the Agency’s acceptance of the new criteria.

OMB’s approval of the new criteria is unclear. Additionally, NASA outyear budgets show up to \$700 million of additional RLV “transition” funding. Subsequent to the Phase III decision, NASA would pay most of the cost for this additional “transition” work. NASA officials are considering proceeding with Phase III even though substantial technology risks may not be resolved. NASA and Lockheed officials have identified numerous technology requirements that the X-33 may not satisfactorily answer.

Objectives

The objectives are to determine whether:

- The current Phase III decision criteria fully satisfy the intent of the original criteria.
- NASA has identified appropriate Phase III decision criteria, and whether OMB has reviewed and approved these criteria.
- The program will satisfactorily address both the original and new Phase III decision criteria.

Hypersonic Technology Program [Audits]

Potential Locations: LaRC

NASA established a multi-year experimental hypersonic ground and flight test program called Hyper-X. The program seeks to demonstrate air-

breathing engine technologies that promise to increase payload capacity for future vehicles from hypersonic aircraft to reusable space launchers. The Hyper-X Phase I program is being conducted jointly by the Langley Research Center (LaRC) and the Dryden Flight Research Center (DFRC). LaRC is the lead Center and is responsible for hypersonic technology development. DFRC is responsible for flight research.

Phase I is a 5-year, \$150 million, program that is to flight validate scramjet propulsion, hypersonic aerodynamics, and design methods. Orbital Sciences Corporation was selected to design and develop four Pegasus derivative launch vehicles for use in Phase I. In addition, LaRC awarded a \$33.4 million contract to Micro Craft, Incorporated, to construct the Hyper-X vehicles. These aircraft are small, unpiloted experimental vehicles that will fly up to ten times the speed of sound.

Objectives

The objectives are to determine whether:

- Program goals are reasonable and achievable.
- Program funding is appropriate.
- Program cost and schedule are realistic and properly managed.

High Speed Research Program [Audits]

Potential Locations: HQ, LaRC, LeRC, ARC

Aircraft manufacturers of several nations are developing technology for the next plateau of international aviation competition. Capturing a

share of the potential market of \$200 billion and 140,000 jobs is vitally important to the U.S. aerospace industry. To help boost competitiveness, NASA is conducting a High Speed Research (HSR) program. The program addresses the highest priority, highest risk technologies for the development of a High Speed Civil Transport (HSCT). The program is intended to also demonstrate the technical feasibility of a HSCT. The decision to proceed with full-scale production will be made by industry.

The HSR program is being conducted as a national team effort with shared government and industry funding. The team includes four NASA Centers and five major aerospace contractors. LaRC is the lead Center for the program. Phase I of the program was completed in FY 1995. Phase II, the final phase, is scheduled for completion in 2002. This phase places primary emphasis on propulsion, airframe materials and structures, flight deck systems, aerodynamic performance, and systems integration. The FY 1998 funding level for the program was approximately \$230 million. FY 1999 funding is expected to be about \$190 million.

Objectives

The objectives are to determine whether:

- The HSR program is being efficiently and effectively managed.
- Industry partners are making appropriate monetary contributions to the program.
- Contractual requirements are being met.
- There is reasonable progress toward achieving the stated goals.

Engineering Research and Technology Development on the International Space Station [Audits and Inspections]

Potential Locations: HQ, Selected Centers

Reducing the costs and improving the performance of future Government and commercial activities in space requires continuous engineering research and technology development. Since the space environment is difficult to simulate

on Earth, many research and development activities can only be performed in space. Consequently, Earth orbit is the logical, most effective location for these activities.

The ISS will provide an ideal location for in-space engineering research and technology development. Not only could the ISS function as a laboratory for, but it could also be the subject of engineering research and technology development activities. The unique capabilities of the ISS will enable it to support a wide variety of these technology activities.

A report issued by the National Research Council concluded that the ISS could be used for significant engineering research and technology development in areas such as advanced solar power systems, robotic systems, life-support systems, fluid transport, and structural dynamics. The Council made nine specific recommendations for ensuring that the ISS is used effectively for engineering research and technology development.

Objective

The objective is to determine whether NASA has implemented the National Research Council's recommendations for using the ISS for engineering research and technology development activities.

NASA's Efforts with Industry, Universities, and the Private Sector to Develop High-Risk, High-Payoff Technologies [Audits, Inspections, and Partnerships]

Potential Locations: HQ

The Space Act of 1958 directed NASA to conduct the nation's civil space activities to contribute materially to "the preservation of the role of the United States as a leader in aeronautical and space science and technology...." NASA is, therefore, responsible for developing

advanced space technologies that will reduce costs, improve the performance of existing space activities, and enable new ones.

During 1998, the National Research Council (Council), Committee of Advanced Space Technology issued a report entitled *Space Technology for the New Century*. This report identified six key technology areas that NASA should support with low-level research and technology funding. According to the Council, these six technologies represent "a small, but broad portfolio that holds high promise for large future benefits at the cost of a small investment today." The Council also reviewed NASA's overall technology development program and made recommendations for improving how the Agency works with industry and universities to develop advanced space technologies.

Objective

The objective is to determine what actions NASA has taken or planned in response to the National Research Council's recommendations concerning key technology areas and the Agency's overall technology development program.

Integration/Coordination of RLV Technology Initiatives [Audits]

Potential Locations: HQ, MSFC

NASA's search for a space launch vehicle to replace the aging Space Shuttle is one of the Agency's highest priorities. The RLV program constitutes a major portion of this effort. As

originally structured, the RLV program included DC-XA, X-34, X-33, multiple technology initiatives under the Advanced Space Transportation program, and a variety of in-house and contractor work on related technologies. Recent initiatives include Future X, Crew Return Vehicle (X-38), Bantam Lifter, and numerous other significant technology efforts that go beyond the X-33 flight demonstration program. NASA is also pursuing a "Shuttle Flyback Booster" and various other Shuttle upgrades.

Due to the number and variety of ongoing efforts, sufficient integration and coordination of these activities is essential to ensure that the overall goal of developing a next generation launch vehicle is achieved.

Objectives

The objectives are to determine whether:

- NASA's RLV initiatives are adequately integrated and coordinated to ensure these activities are carried out efficiently and effectively.
- There is any duplication of effort.
- NASA has developed and implemented an integrated strategy for developing a next generation launch vehicle.
- Procedures have been established to ensure an efficient and effective exchange of data and technology among the various programs and projects.

X-36 Research Aircraft [Audits]

Potential Locations: ARC, DFRC

In 1994, ARC and Boeing North American agreed to a cost-sharing arrangement to design, build, and flight test two X-36 research aircraft. Under

this agreement, ARC is responsible for the continued development of critical technologies and flight test activities. Boeing North American is responsible for manufacturing the aircraft. The total program cost is approximately \$20 million.

The X-36 is a subsonic, remotely-piloted jet aircraft designed to demonstrate the feasibility of future tailless military fighters that can achieve agility levels far superior to today's aircraft. Two aircraft, 28 percent scale, were delivered to NASA in 1996. These aircraft are each 18 feet long, 3 feet high, weigh 1,270 pounds, and have a 10-foot wingspan. During a planned 25-flight test program, these scaled-down aircraft will be put through fighter aircraft maneuvers. Performance characteristics data, such as agility, will be gathered and evaluated during each flight. The project goal is to offer enhanced technologies to improve the maneuverability and survivability of future fighter aircraft.

Objectives

The objectives are to determine whether:

- The X-36 project is meeting cost, schedule and technology development goals.
- NASA and Boeing North American are complying with the terms and conditions of the cost-sharing agreement.

Advanced Subsonic Technology Program [Partnerships]

Potential Locations: HQ, Selected Centers

The Advanced Subsonic Technology (AST) program is a cooperative Government-industry program to develop technologies in areas where such developments will facilitate the economic and

technological competitiveness of U.S. subsonic aircraft producers. These developments include not only airframe, engine, and avionics technology improvements, but also short-haul aircraft, environmental studies, efficiency and safety improvements, advanced air traffic technology, and aircraft design and manufacturing tools.

The AST program success will be measured by how well NASA contributes to technology readiness that will: (a) enable U.S. manufacturers to obtain a larger share of the world market for civil aircraft, and (b) improve the effectiveness and capacity of the national air transportation system. Some of the critical areas that have been identified for cooperative efforts which will help achieve the program goals are:

- Fly-by-wire/Power-by-wire
- Noise reduction
- Short-haul General Aviation
- Aging Aircraft
- Integrated Wing Design
- Composites

Objectives

The objectives are to determine whether:

- Overall program management is effective and coordination with FAA and other partners is adequate.
- Program metrics are established and effective.
- The program is meeting industry needs.
- Any improvements or enhancements could be made to improve the partnership alliance.
- Industry's contributions and level of involvement are adequate.

Civil Tiltrotor Project [Partnerships]

Potential Locations: HQ, Selected Centers

The Civil Tiltrotor Project (CTR) is one of three projects within the ARC Aviation System Capacity program. The CTR goal is to develop critical

technologies for overcoming barriers to market acceptance of tiltrotor aircraft in the Air Transport System. The CTR offers a unique opportunity to create a new aircraft market while off-loading a portion of the short-haul traffic. NASA, Army, and contractor personnel have collaborated in conducting rotorcraft analyses, flight experiments, and simulator investigations as part of a long-term joint agreement(30-plus years) for the conduct of helicopter-related research. CTR partnering relationships include industry, DoD (Army/Navy), and FAA.

Objective

The objective is to evaluate the effectiveness of FAA/DoD/NASA CTR partnering activities, commitments and accomplishments.

B. TECHNOLOGY TRANSFER AND COMMERCIALIZATION

Transfer of Human Space Flight Research and Technology Development to Government and Industry [Audits]

Potential Locations: HQ, JSC, MSFC

One of NASA's primary missions is to research, develop, verify, and transfer advanced aeronautics and space related technologies. In support of this mission, one of the strategic objectives of the

HEDS Enterprise is to "promote knowledge and technologies that promise to enhance our health and quality of life." The strategies for meeting this objective are to:

- Disseminate science, medical and technological information.
- Continue to pursue an active program of technology transfer.
- Undertake joint ventures in partnership with key customers and suppliers.
- Define concepts and develop technologies to enable Earthly benefits from space resources and the promise of in-space commerce.

Generally, the HEDS Enterprise is responsible for enabling the commercial development of space, and sharing HEDS knowledge, technologies, and assets that promise to enhance the quality of life on Earth.

Objective

The objective is to determine whether the HEDS Enterprise is meeting its objectives for transferring space research and technology to other NASA Enterprises, other government agencies, and private industry.

Regional Technology Transfer Centers [Partnerships]

Potential Locations: HQ, Selected Centers

In 1992, NASA created a network of six RTTCs to foster collaboration between the public and private sectors and match the technology needs of the private sector with the resources of NASA

and other Federal laboratories. The RTTC services include technology sourcing, technology market analyses, and development of commercialization projects and agreements. The RTTCs have access to over 200 databases and a large number of business clients for potential collaborative efforts or licensing. The RTTCs direct inquiries to the appropriate contact within the Federal Laboratory Consortium.

Objectives

The objectives are to:

- Evaluate the collaborative processes employed to match the private sector's technology needs with NASA's and other Federal research and development resources.
- Evaluate the RTTC's success in facilitating the transfer of technology to industry.
- Compare the methods used by the RTTCs to transfer technology to the private sector with those used by other Federal agencies.

Partnership for a New Generation of Vehicles [Partnerships]

Potential Locations: HQ, Selected Centers

In September 1993, the President and Chief Executive Officers of major domestic automakers announced formation of the Partnership for a New Generation of Vehicles (PNGV). The seven

Federal agencies that will participate in this partnering activity are the Department of Commerce (DOC), the Department of Energy (DOE), the Department of Transportation, EPA, DoD, NASA, and the National Science Foundation. A number of national laboratories that are primarily funded by DOE will also participate. The PNGV program strives to: (1) improve national competitiveness in manufacturing, (2) implement commercially viable innovations from ongoing research in conventional vehicles, and (3) develop vehicles that can achieve up to three times the fuel efficiency of comparable 1994 family sedans. The Partnership's target is to develop a concept vehicle by the year 2000 and a production prototype by 2004. The DOC is the lead agency for program management of the PNGV.

Objectives

The objectives are to assess:

- The level and effectiveness of NASA's partnering activities.
- The extent to which NASA's technical contributions have contributed to achieving the partnership goals.

IV. ENTERPRISE: CROSSCUTTING FUNCTIONS

A. INFRASTRUCTURE AND SUPPORT

1. PROCUREMENT AND INTERNATIONAL AGREEMENTS

NASA's Use of Electronic Commerce to Streamline Procurement [Audits] **Potential Locations: HQ, Selected Centers**

According to General Services Administration (GSA), Office of Governmentwide Policy, electronic commerce (EC) is becoming the preferred way of doing business with the

Government. EC is the paperless exchange of any business information by means of connected computers. EC involves the use of many automated tools, such as the Internet, electronic data interchange, electronic mail, electronic funds transfer, electronic catalogs, credit cards, smart cards, and other techniques to deliver services and conduct Government business.

The Federal Acquisition Streamlining Act of 1994 (FASA) mandated the establishment of a Federal Acquisition Computer Network architecture as an initial step to enable Federal agencies and vendors to do business electronically in a standard way. NASA has assumed a leadership role in a Federal EC program.

Objectives

The objectives are to evaluate the status and effectiveness of NASA's use of EC to streamline procurement. Specifically, we will evaluate whether:

- Guidance on EC from NASA Headquarters is adequate.
- NASA Centers are effectively pursuing various EC techniques.
- NASA's implementation of just-in-time and electronic catalogs is efficient.

Contractors' Use of Consultant Services [Audits] **Potential Locations: JSC, KSC, MSFC, GSFC**

As business firms are downsizing, the use of consultant services has grown rapidly. Consultant services are considered a high-risk area of procurement. In FY 1997, NASA awarded \$9.6

billion to business firms for support of research and development services, and supplies and equipment procurements. Of that amount, 30 percent (\$2.9 billion) was for professional, administrative, and management support services. This amount represents a 200 percent increase in the awards for the same services in FY 1996.

Objectives

The objectives are to determine whether NASA has adequate controls over contractors' use of consultant services. Specifically, we will determine whether:

- Management controls are adequate.
- Consulting service costs are allowable and reasonable.

NASA's Followup System for DCAA Reports and Recommendations [Audits]

Potential Locations: HQ, Selected Centers

organizations, the General Accounting Office (GAO), and non-Federal auditors, where followup is necessary. Guidance on timely followup, resolution, and disposition of audit report recommendations as well as tracking procedures are provided in this circular. OMB Circular A-50 also requires agencies to track all audit reports, report semiannually to agency administrators on the status of unresolved audit reports over 6 months old, and periodically evaluate the followup system's operations. This guidance is applicable to the significant number of audit reports that NASA receives from the Defense Contract Audit Agency (DCAA).

OMB Circular A-50 provides the policies and procedures to be used by executive agencies when considering reports issued by the Inspectors General, other executive branch audit

Objective

The objective is to determine whether NASA's followup process for DCAA reports and recommendations is effectively administered and complies with OMB and NASA requirements.

Management and Administration of International Agreements at NASA [Audits]

Potential Locations: HQ, Selected Centers

1958 to enter into binding agreements with foreign entities. Agreements with foreign governments that are significant in scope, legally binding, and governed by international law are "international agreements," as defined in the Case-Zablocki Act. A demonstrable NASA mission or program requirement must exist for NASA to enter into the agreement, and the contribution of the other party must be comparable to NASA's contribution. Under such arrangements, both governments are interested in, and work together on, a particular mission and share the resulting scientific data. NASA currently has approximately 3,000 international agreements.

A goal of the National Space Policy is to promote international cooperative activities that are in the national interest. NASA has statutory authority under the National Aeronautics and Space Act of

Objectives

The objectives are to determine whether NASA management of international agreements is adequate. Specifically, we will determine whether:

- Contributions under international agreements are equitable.
- Proper clearances are obtained for foreign personnel using NASA facilities.
- Controls over technical data are adequate.
- Reimbursable agreements are properly executed.
- Reimbursable agreements do not interfere with NASA programs.
- Costs are accurately recorded for reimbursable agreements.

NASA Sole Source Procurements [Audits]

Potential Locations: HQ, GSFC, JSC, LeRC, MSFC

modifications to contracts awarded in prior years. The amount of non-competitive FY 1997 awards has increased by 43 percent over FY 1996. This increase is due to modifications to prior non-competitive awards. Most of the non-competitive new awards were justified with a statement that "one responsible

In FY 1997, NASA awarded 38 percent of its procurements non-competitively. Of this amount, 4.7 percent represented new awards and 95.3 percent constituted non-competitive

source” was available. The DoD Inspector General recently testified to Congress that DoD organizations continue to miss opportunities to save costs because of the lack of competitively awarded contracts.

Objective

The objective is to determine whether NASA sole source procurements were justified and awarded in accordance with regulations.

Contractor Performance on NASA Support Services Contracts [Audits]

Potential Locations: HQ, ARC, MSFC, GSFC

Since the 1970s, Congress, the GAO, and the Inspectors General have voiced concerns regarding the acquisition, management and use of contracted support services by Government

agencies. Concerns focus on the perception that a higher risk for fraud, waste, and abuse occurs when contracting for services, particularly support services. The amount NASA spends on contracted support services is significant and increasing. In FY 1996 NASA spent \$4.3 billion on such services. The amount NASA spent on such services increased 10 percent in FY 1997 to \$4.7 billion.

Objectives

The objectives are to evaluate:

- The adequacy of NASA oversight of support service contractors’ performance.
- The reliability of reported NASA service contract costs.

NASA’s Progress in Implementing Performance-Based Contracting and Metrics [Audits]

Potential Locations: HQ, Selected Centers

NASA regulations define performance-based contracting as “structuring all aspects of an acquisition around the purpose of the work to be performed as opposed to either the manner by which the work is to be performed or broad and

imprecise statements of work.” Performance-based statements of work are results oriented, specifying “what” is to be accomplished as opposed to “how” tasks will be accomplished. To the maximum extent practicable, agencies must state requirements for acquisitions of supplies or services in terms of the functions to be performed, performance required, or essential physical characteristics. NASA prescribes performance-based contracting as the preferred method for establishing contract requirements.

During 1997, NASA awarded 607 performance-based contracts with a total acquisition value of \$4.8 billion. NASA planned to award 609 performance-based contracts in FY 1998 with a total acquisition value of \$10.8 billion. For FY 1999, NASA projects that 544 performance-based contracts will be awarded, valued at \$8.3 billion.

Objectives

The objectives are to evaluate whether NASA has made adequate progress in implementing performance-based contracting and metrics. Specifically, we will evaluate whether:

- Guidance on performance-based contracting from NASA Headquarters is adequate.
- NASA Centers are effectively converting existing contracts to performance-based contracts and awarding new contracts as performance-based contracts.
- Award and incentive fees for performance-based contracts are effective.

NASA's Use of Price Analysis in Procurement [Audits]

Potential Locations: *HQ, GSFC, JSC, LeRC, MSFC*

FASA raised the Truth in Negotiations Act (the Act) threshold for submitting certified cost or pricing data from \$100,000 to \$500,000. The statute also extends the Act's application from DoD to civilian agencies. The Act is generally

designed to ensure that when the Government buys at a price that has not been tested in the competitive marketplace, the Government is put on an equal footing with its contractors. Raising the threshold to \$500,000 for certified cost or pricing data is intended to reduce the risk of inaccurate cost or pricing data submissions and to lessen the contractor's burden of compiling such data.

Price analysis is the process of examining and evaluating a proposed price to determine whether it is fair and reasonable, without evaluating its separate cost elements and proposed profits. When cost or pricing data is not required, contracting officers' must use price analysis to determine fairness and reasonableness. When cost or pricing data is required, cost analysis must be used to evaluate the reasonableness of individual cost elements.

Objectives

The objectives are to evaluate the effectiveness and efficiency of NASA's price analyses. Specifically, we will determine whether NASA's contracting officers:

- Performed price analyses where appropriate.
- Obtained sufficient detailed pricing evidence.
- Properly documented their pricing analyses.
- Requested cost and pricing data only when required.

NASA's Use of Commercial Items [Audits]

Potential Locations: *GSFC, JSC, LeRC, SSC*

The Competition in Contracting Act of 1984 required the use of market research and procurement planning to promote the use of

competitive procedures in Federal contracting. The Federal Acquisition Regulation (FAR) implemented those market research provisions and essentially established market research as a tool for identifying: (1) sources to ensure competition, and (2) commercial products to meet an agency's need. Emphasis on the use of market research to identify commercial items has evolved. FASA has reiterated some existing requirements and stipulated additional ones for market research and the procurement of commercial items.

FASA strongly states a preference for buying commercial items or non-developmental items other than commercial items to meet the needs of Federal agencies. The statute also defines commercial items more broadly and imposes many requirements on agency procurement officials. For example, agencies must conduct market research before developing new specifications for a procurement and before soliciting offers for acquisitions exceeding \$100,000. The contracting officer decides what is or is not a commercial item. During FY 1997, NASA's total commercial item purchases were about \$230 million, of which \$125 million exceeded the market research threshold of \$100,000.

Objectives

The objective is to evaluate selected aspects of NASA's procurement of commercial items. Specifically, we will determine whether NASA's:

- Market research efforts have been satisfactory.
- Commercial acquisitions have been priced in a fair and reasonable manner.
- Solicitations, purchase orders, and contracts for commercial items contain proper clauses and provisions.
- Contracting officers properly identified commercial items.

NASA's Management of Undefined Contractual Actions [Audits]

Potential Locations: GSFC, JSC, MSFC

Undefined contract work is generally defined as “a change in the scope of an existing contract for which an equitable monetary adjustment has not been negotiated.” Contract change orders typically

represent the majority of undefined contractual actions. A change order directs the contractor to proceed on a change to the contract (usually based on issuance of a modification pursuant to a contract “changes” clause) without having an agreement on an equitable adjustment. This action is followed by a supplemental agreement that definitizes the change order and closes out the action. The NASA FAR Supplement states that “undefined contract actions shall be executed by contracting officers on an exception basis and shall be limited to minimum urgent requirements.”

Objectives

The objectives are to determine whether NASA is adequately managing undefined contractual actions. Specifically, we will determine whether:

- Undefined contractual actions were urgent and necessary.
- Contract change orders are administered in accordance with applicable regulations.
- Procurement data regarding undefined contractual work is accurate and complete.

NASA's Management of Contractor Acquired Facilities at Marshall Space Flight Center [Audits]

Potential Locations: MSFC

NASA contractors sometimes lease facilities to perform the work required in their contract. Prior audit and investigative work has found that NASA personnel could not specify the amount of funds being spent for contractor facility leases or the

number of leases. Also, audits of contractor facility leases found specific problems regarding the use of space and lease classification. These audits identified potential cost savings of nearly \$50 million. The FAR states that lease costs for facilities are an allowable cost, but must be reasonable. As NASA continues to reduce its infrastructure and move contractors on to NASA installations where possible, other issues may arise with contractor-leased facilities.

Objectives

The objectives are to determine whether NASA is adequately managing facility leasing at MSFC. Specifically, we will determine whether:

- Contractor facilities are used effectively.
- Contractor facility leases are correctly classified.
- Contractors accurately bill lease costs to the Government.

Non-Conforming and Substandard Parts and Materials [Proactive Investigations]

Potential Locations: To be determined

Many components for aerospace and support systems, including fasteners, O-rings, ball bearings, and electronic parts must be manufactured in accordance with applicable military specifications or National Aerospace Standards. Failure to comply with these standards is a continuing industry-wide deficiency and threat to mission safety. We plan to coordinate our proactive investigative efforts with other Government law enforcement resources and work to strengthen criminal sanctions against the introduction of substandard aircraft and spacecraft parts into the aerospace and defense domain.

Objective

The objectives are to determine the relationship between instances of failure or defect in parts and components and their under testing, non-testing, or non-conformance to Government or contract specifications.

Contract and Subcontract Irregularities [Proactive Investigations]

Potential Locations: To be determined

This project incorporates a number of proactive initiatives concerning contract fraud, which includes mischarging, kickbacks, and bid-rigging. Historically, investigations have shown that the concurrent existence of cost-type and fixed-price contracts creates an environment for possible cost-shifting or mischarging to the Government. This initiative may also detect lack of competition in subcontracting, potential conflicts of interest, and direct kickback relationships between prime and subcontractor employees. Review of bid and procurement files and interview of procurement officials and unsuccessful bidders would possibly identify instances where contractors have colluded to fix prices, rig bids, or allocate markets.

Objective

The objective is to identify irregularities which may be indicators of criminal activity in the areas of cost mischarging, kickbacks, and bid-rigging.

NASA Leases [Proactive Investigations]

Potential Locations: To be determined

Prior work by Inspectors General and others has shown that Government contractor executives sometimes receive kickbacks and concessions for entering into property rental leases. These costs are then billed as Government contract costs. In some instances, the contractors, or shell companies controlled by them, own the properties and equipment and improperly inflate the costs of the leases. Government agencies and the contractors sometimes negotiate lease-to-own arrangements in which contractors purchase large items, such as supercomputers, and then lease them back to the agency for a period of time. After the lease expires, the Government assumes ownership of the item. In some instances, the Government has borne additional costs (such as, interest) that would have been avoided had it purchased the item directly.

Objective

The objective is to identify improperly executed lease arrangements that caused or could cause NASA to incur unnecessary costs.

Grants and Research Contracts [Proactive Investigations]

Potential Locations: To be determined

Research, and Small Business Technology Transfer programs. This project will attempt to detect fabrication, falsification, and plagiarism in proposing, performing, or reporting research results by universities or NASA contractors. We will focus on identifying duplicate Federal funding and subcontracting.

As part of the Governmentwide focus on the integrity of Federally-funded research, this project will identify potential for research misconduct concerning grants, Small Business Innovative

Objective

The objective is to examine selected grants and contracts to identify potentially fraudulent claims for work not performed.

NASA Peer Review Processes [Inspections]

Potential Locations: HQ, Selected Centers

prescribed target is to “submit 80 percent of Agency research projects to peer-reviewed processes” with proposals submitted for NASA funding to be “selected through merit-based competitive process.”

NASA has identified an Agency performance objective to “select research projects through peer-reviewed and merit-based competition.” The

Objectives

The objectives are to:

- Determine whether peer review processes are rigorous, consistently applied, and conform with professional standards.
- Identify and share best practices and benchmark effective processes in other Federal organizations and in industry and academia.

Headquarters Service Contract Policy and Internal Review Team [Inspections]

Potential Locations: HQ, GSFC

Headquarters offices. This prohibition includes the acquisition of nonspecific support services from NASA Centers to support any Headquarters office. The Internal Review Team was established to review all current or proposed contracts or other procurement vehicles to determine their conformity with the Headquarters Service Contract Policy. As a result of this policy, many Headquarters contracts that were performing nonspecific support services were eliminated or reduced significantly.

The NASA Headquarters Service Contract Policy prohibits the use of contracts, orders under contracts, grants, or other types of arrangements to provide nonspecific support service to

Objectives

The objectives are to:

- Determine whether the services contracting policy requires modification to reflect management priorities.
- Sample Headquarters support contracts awarded in the last 2 years to determine whether they comply with the policy.
- Determine whether other support being obtained by the program offices complies with the policy.

2. FACILITIES AND EQUIPMENT

Property Management and Controls for Contractor-Held Equipment [Audits]

Potential Locations: *JSC, KSC, MSFC, GSFC*

acquire such personal property on contracts using NASA funds. Contractors are required to report NASA-owned equipment having a unit acquisition cost of \$5,000 or greater on NASA Form 1018, *NASA Property in the Custody of Contractors*.

NASA accomplishes its mission extensively through the use of contractors. NASA often provides these contractors with Government-owned equipment and materials, or allows them to

Contractors have equipment such as general-purpose plant equipment, special tooling, special test equipment, and Agency-unique equipment. Contractors are required to manage and account for NASA property in accordance with the FAR and the NASA FAR Supplement, as well as other directives and requirements stated in their contracts. During 1997, contractors reported that they held approximately \$18 billion of NASA-owned personal property.

Objectives

The objectives are to evaluate management controls and procedures over accountability and use of NASA personal property held by off-site contractors. Specifically, to evaluate:

- Property losses and actions taken by NASA regarding contractor losses of property.
- Property accountability.
- Property use.

Hard Drive 99: Clearing Controlled Information from Excessed Microcomputers [Inspections]

Potential Locations: *To be determined*

licensed/copyrighted software and user data on hard drives that were awaiting shipment to various addressees external to NASA. As a result of our findings and recommendations, NASA management instituted new policies and procedures and emphasized compliance with existing guidelines.

In FY 1997, the IAIA staff conducted unannounced “spot” checks at two NASA Centers of microcomputers that had been declared excess property. The inspection team found

Objectives

The objectives are to:

- Determine whether licensed/copyrighted software and controlled data is properly cleared from microcomputer equipment ready for property disposal.
- Evaluate the compliance with, and effectiveness of, revised procedures and techniques for clearing information from hard drives.

Facilities and Personnel Inventory

[Inspections]

Potential Locations: *HQ, Selected Centers*

objective is to ensure that NASA has outlined a framework that allows Enterprises to determine the in-place resources needed to accomplish the Agency’s strategic plan. The Team will focus on ensuring that funds are targeted to maintain those facilities needed to accomplish NASA’s strategic plan. Additionally, in light of the downsizing of the work force, the study will focus on the maintenance and enhancement of

NASA has established Core Capabilities Steering Team (Team) to perform a zero-based inventory of its facilities and personnel. The Team’s

those core personnel skills required by the strategic plan. The Team's emphasis is on strategic hiring to fill positions of need as opposed to refilling vacated positions.

Objectives

The objectives are to:

- Determine whether the study is structured appropriately to ensure objectivity and consistent application between Headquarters and the Centers.
- Ensure that the study is broadly focused to ensure that the entire array of options is considered.

3. OPERATIONS

NASA Badging Program and Physical Access Controls [Inspections]

Potential Locations: HQ, JPL, JSC, LaRC, MSFC

NASA is responsible for protecting the national assets under its control and providing adequate security to its civil service work force, contractors, partners, and visitors. Key processes in providing these protections include the policies, procedures,

and practices governing access to NASA facilities and ways in which the Agency issues official badges.

Objectives

The objectives are to:

- Determine whether NASA Centers comply with Federal and NASA badging and physical access control guidelines.
- Assess whether policies and procedures are in place to adequately control access to sensitive facilities or controlled information and materials.
- Identify and share best practices, including innovative applications of security technology and effective deployment of security staff.

Effectiveness of NASA Disciplinary Actions [Inspections]

Potential Locations: HQ, Selected Centers

NASA's ability to initiate and complete actions dealing with employee misconduct has a direct impact on NASA's effective management of personnel, the deterrence and prevention of

misconduct, and the overall morale. It also affects public perception of the NASA civil service work force.

Objectives

The objectives are to:

- Determine whether disciplinary actions are timely and effective.
- Evaluate whether actions are in compliance with Federal and NASA guidelines.
- Assess whether disciplinary actions are consistent.
- Determine the adequacy of training and development for employee relations staff in NASA.

NASA Chief Scientist [Inspections]**Potential Location: HQ**

The NASA Chief Scientist has historically fulfilled a vital role and been an important voice in furthering basic and applied science within NASA and the scientific community at large. The Chief Scientist has been an important interface with the White House, Congress, advisory commissions, and other external groups in defining and describing NASA's role in the scientific field.

The NASA Chief Scientist has historically fulfilled a vital role and been an important voice in furthering basic and applied science within NASA

Objectives

The objectives are to:

- Determine the rationale for not staffing this position.
- Determine the impact on NASA and the scientific community of leaving this position vacant for a substantial period of time.

NASA Academic Programs**[Partnerships]****Potential Locations: HQ, Selected Centers**

NASA's strategic plan sets forth the vision for education as one of the Agency's strategic outcomes. That outcome is to promote the pursuit of educational excellence by involving "the educational community in our endeavors to inspire America's students, create learning opportunities, and enlighten inquisitive minds." Implementation of a full range of NASA education programs that contribute to the activities of the education community helps the Agency to achieve its desired outcome. One of the four key goals for NASA's education program is to significantly expand the impact of the NASA education program by developing partnerships with external constituencies. NASA's education evaluation system, Education Computer-Aided Tracking System (EDCATS), collects, analyzes, evaluates, and reports student support program data and program outcomes throughout the NASA system.

NASA's strategic plan sets forth the vision for education as one of the Agency's strategic outcomes. That outcome is to promote the pursuit

Objectives

The objectives are to:

- Assess the effectiveness of EDCATS in providing the performance measures used to evaluate the strategic outcomes of NASA's education programs.
- Evaluate the effectiveness and accomplishments of a selected NASA-university education partnership by using EDCATS.

B. ENVIRONMENT AND SAFETY MANAGEMENT**1. ENVIRONMENT**

National Environmental Policy Act Process**[Audits]****Potential Locations: KSC, SSC, JSC**

The National Environmental Policy Act (NEPA) established a national environmental policy and goals for the protection, maintenance, and enhancement of the environment. NEPA requires all Federal agencies to consider environmental values in planning any agency action prior to implementing those actions. NEPA also directs Federal agencies to consider alternatives to actions that impact the environment. The information compiled by NASA in fulfilling NEPA requirements should be made

The National Environmental Policy Act (NEPA) established a national environmental policy and goals for the protection, maintenance, and enhancement of the environment. NEPA requires

available to the public as well as other Federal, state and local agencies. This process should be followed whenever a proposed action has an environmental impact.

Objectives

The objectives are to determine whether NEPA is an integral part of NASA's planning. Specifically, we will determine whether:

- NASA has adequately defined NEPA requirements.
- NEPA requirements have been met at NASA Centers.

Sale of Hazardous Materials to the Public [Audits]

Potential Locations: *JSC, KSC, MSFC*

Hazardous materials are sold to the public at most NASA Centers. These sales are conducted by NASA or GSA. Materials sold include paints, solvents, paint thinners, and mercury batteries. If

the buyers of hazardous materials do not properly dispose of the used or unused materials, NASA could be subject to fines, penalties, and cleanup costs. As a result, NASA should have controls in place which protect its interests whenever hazardous materials are sold to the public. Specifically, NASA should ensure: (1) that the buyer is aware of the hazardous nature of the material and the resulting responsibility for properly disposing of any used or unused materials, (2) that all sales are coordinated through the Center's environmental office, and (3) the GSA informs the buyer of the nature of the material and resulting disposal responsibilities whenever GSA sells the materials.

Objectives

The objectives are to determine whether NASA has implemented controls over the sale of hazardous materials to the public that protect NASA's interests. Specifically, to determine whether:

- The buyer is informed of the hazardous nature of the material and resulting disposal responsibilities.
- Hazardous material sales are coordinated with the Center's environmental office.
- NASA's interests are protected when GSA sells hazardous materials for NASA.
- Sales of hazardous materials to the public should be discontinued.

Consolidation of Recycling and Waste Collection Efforts at Colocated Facilities [Audits]

Potential Locations: *KSC, LaRC, WFF, MSFC*

Integrated Product Teams were previously chartered to increase DoD/NASA cooperation to achieve reductions in investment and operating costs. One of the Integrated Product Teams' recommendations resulted in a memorandum of

agreement between DFRC and the Air Force Flight Test Center to combine common contractual requirements for recycling of certain waste materials. The intent was to capitalize on attendant economies of scale and to reduce administrative expenses.

The geographic locations of several NASA and DoD installations presents both NASA and DoD the opportunity to further combine resources toward recycling and waste efforts. Four NASA field installations are in close proximity, or are co-located with DoD installations: (1) KSC, Cape Canaveral Air Force Base, and Patrick Air Force Base; (2) LaRC and Langley Air Force Base; (3) WFF and Navy Activities, and (4) MSFC and Red Stone Arsenal.

Objectives

The objectives are to determine whether savings can be generated by consolidating the:

- Recycling and waste prevention programs at co-located facilities.
- Recycling or waste collection contracts at co-located facilities.

Cost Sharing for Environmental Cleanup Efforts [Audits]

Potential Locations: HQ, Selected Centers

Contamination at some NASA sites may be due to the practices of past owners and operators of its facilities, of NASA contractors or tenants, or of neighboring properties. These parties, as well as

NASA, may be considered responsible parties under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the environmental law that governs facility cleanup and imposes liability on responsible parties. CERCLA, however, leaves the allocation of liability up to the responsible parties to negotiate among themselves.

A 1986 GAO study found that NASA did not have policy guidance relative to when and how to allocate cleanup costs to other responsible parties. As a result, NASA has been paying the full cost to cleanup its sites, regardless of not being completely responsible for the contamination. A previous NASA OIG audit found this to be the case, specifically at JPL, where the majority of contamination was attributable to other responsible parties. NASA finalized its guidance in this area after the prior audit was completed.

Objectives

The objectives are to determine whether:

- NASA's current policy has been implemented in a timely manner.
- NASA has adequately justified its decisions to pursue or not to pursue other responsible parties.

RCRA Cleanup Costs [Audits]

Potential Locations: JSC, KSC, MAF, SSFL, WSTF

NASA has identified approximately 800 environmental clean-up sites across its Centers. Several environmental laws can be applied to these sites, including CERCLA, commonly referred to

as Superfund, and the Resource Conservation and Recovery Act (RCRA). CERCLA regulates those sites that are more serious in nature and pose a greater risk to human health and the environment. RCRA is preventative and provides a solid and hazardous waste management framework designed to prevent the addition of new sites to the Superfund cleanup list. RCRA focuses primarily on waste minimization and safe treatment, storage, and disposal of solid and hazardous wastes.

Objectives

The objectives are to determine whether:

- Progress is being made regarding cleanup efforts at NASA's RCRA sites.
- Cleanup efforts are in compliance with requirements contained in environmental directives, orders, and other agreements.
- Environmental cleanup cost estimates are valid and supportable.
- Internal cost control measures exist to ensure that wasteful spending is not occurring in the cleanup effort.

Proactive Environmental Study [Proactive Investigations]

Potential Locations: To be determined

environmental crimes. Initial studies have determined that remote sensing techniques would be useful in assessing surface water and groundwater quality, and the degree of soil contamination. NASA uses a variety of hazardous materials that it must dispose of in accordance with procedures prescribed by both Federal and state statutes. Much of the disposal responsibility has been assigned to NASA contractors.

In coordination with other cognizant Government agencies, the application of NASA satellite technology is being explored as a means of offering new techniques for pursuing

Objectives

We will coordinate this effort with planned audit work and seek to:

- Identify hazardous materials disposed of by NASA and its contractors.
- Evaluate the disposal process to determine its compliance with statutory and contractual requirements.

2. SAFETY AND MISSION ASSURANCE

NASA Emergency Preparedness Program [Audits]

Potential Locations: ARC, LeRC, MSFC, JPL

facilities), JPL, and contractors to the extent specified in their respective contracts. With the advent of the Year 2000, it is imperative that NASA ensures that effective emergency preparedness plans are in place.

It is NASA policy to provide baseline capabilities that meet minimum requirements for responding to emergencies. This policy applies to NASA Headquarters, field Centers (including component

Objectives

The objectives are to determine whether NASA has adequately planned and prepared for emergencies. Specifically, to determine whether each Center:

- Uses a strategy that is applicable to current and future needs (Year 2000).
- Maintains an adequate ongoing plan that covers all required areas.
- Routinely tests their plan.

NASA Safety Program Management [Audits]

Potential Locations: JPL, KSC

personnel through surveys, evaluations, and in-depth inspections. Objective evaluation visits by the functional safety management officials enhance accident prevention efforts and strengthen the effectiveness of the safety programs. These formal evaluations may be performed by the Center's safety staff or by an independent outside source.

NASA is required to conduct formal evaluations of its safety program annually. These evaluations are to be conducted by competent, qualified safety

Objectives

The objectives are to evaluate the adequacy of NASA's safety program reviews. Specifically to:

- Evaluate the effectiveness of safety program management.
- Identify safety concerns and suggest corrective action.
- Determine the adequacy of safety standards and procedures.
- Assess NASA's compliance with established safety practices.
- Assess NASA's compliance with corrective actions recommended by previous safety evaluations.

NASA Safety Risk Assessment [Audits]

Potential Locations: HQ, Selected Centers

NASA defines risk management as “the integrated analysis and control of the risk elements of physical hazards, cost overruns, and schedule

slippage through a process of ‘Continuous Risk Management.’” NASA’s fundamental safety policy is to prevent: (1) loss of life, (2) personnel injury, (3) equipment or property damage, (4) mission or test failures, and (5) events that could cause adverse public reaction. NASA policy uses a systematic approach to measure the safety risks associated with all Agency activities and to provide that risk assessment to program management. Safety is to be accomplished primarily as a line organization function and is to be an integral part of each manager and supervisor’s duties. Risk assessments are forwarded to program managers to initiate appropriate steps to reduce the identified hazards to acceptable levels.

Objectives

The objectives are to determine whether the:

- Risk assessment process is working as intended.
- Risk assessment codes adequately portray the actual safety risks.

NASA Safety Variance: Waivers and Deviations on Shuttle Flights [Audits]

Potential Locations: JSC, KSC, MSFC

Previous Space Shuttle flights have flown with numerous waivers and deviations. Many of these waivers and deviations have continued over an extended period of time. Waivers are safety

variations that authorize departure from a specific safety requirement where an increased level of risk has been accepted. Deviations are safety variations that authorize departure from a particular safety requirement where the intent of the requirement is being met through alternate means that provide an equal or greater level of safety.

Objectives

The objectives are to determine whether Space Shuttle waivers and deviations are properly documented and approved. Specifically, to:

- Determine whether the lengths of time that individual waivers and deviations have been used are excessive.
- Assess the reliability of the determination that an equal or greater level of safety is being achieved.
- Determine an estimate of the degree of risk that NASA is assuming with the existing level of waivers and deviations on Shuttle flights.
- Determine whether the level of such risk should be reduced by either improving waiver and deviation procedures or by reducing their number.

C. INFORMATION TECHNOLOGY

1. INFORMATION ASSURANCE

UNIX Operating System Security and Integrity [Audits]

Potential Locations: *ARC, LeRC, GSFC, KSC, JPL*

The UNIX operating system is used in a variety of major, mission-critical computing environments at NASA. As with other operating systems, UNIX can provide a foundation for security and integrity if implemented and configured appropriately. Our

initial audits will focus on UNIX security and control in the following environments: (1) Numerical Aerodynamic Simulation, (2) MASS Storage, (3) Mission Operations and Data Processing Systems, (4) Shuttle Processing Data Management System, (5) New Business Systems, and (6) Deep Space Network.

Objective

The objective is to determine whether the operating system environment has been implemented and configured to provide for an appropriate level of security and integrity.

MVS/ESA OS/390 Operating System Integrity and Security [Audits]

Potential Locations: *JSC, MSFC*

The Shuttle Software Production Facility (SPF) at JSC is a computing, avionics test, and mission support facility with the unique hardware and software necessary to provide mission-critical

support. The emphasis of operations is to process flight software to support various mission objectives. The SPF supports development, implementation, and verification for Shuttle payload and ground systems applications. It also supports prelaunch and mission flight operations for troubleshooting mission anomalies. It supports over 2,000 users located across the United States.

The NASA ADP Consolidation Center (NACC) at MSFC was originally chartered in 1994 to consolidate Office of Space Flight computer workloads executed on IBM and IBM-compatible mainframes. Currently, the NACC's charter has been expanded to include all IBM-based mainframe computers from all NASA Centers. It supports about 20,000 customers in consolidated operations.

Both the Shuttle SPF and NACC are migrating to a layered operating system architecture—Multiple Virtual Storage/Enterprise Systems Architecture (MVS/ESA) and extensions to the MVS/ESA operating system known as Open Server 390 (OS/390). This migration will allow the SPF and NACC to support NASA user requests for Internet and intranet services, protocol functions, and UNIX application services and file requests.

Objective

The objective is to determine whether the operating system environment has been implemented to provide for an appropriate level of security and integrity.

Security Software Implementation RACF and ACF2 [Audits]

Potential Locations: JSC, MSFC

flight software to support various mission objectives. The SPF supports development, implementation, and verification for Shuttle payload and ground systems applications. It also supports prelaunch and mission flight operations for troubleshooting mission anomalies. It supports over 2,000 users located across the United States.

The SPF at JSC is a computing, avionics, and mission support facility with the unique hardware and software necessary to provide mission-critical support. The emphasis of operations is to process

The NACC at MSFC was originally chartered in 1994 to consolidate Office of Space Flight computer workloads executed on IBM and IBM-compatible mainframes. Currently, the NASA ADP Consolidation Center charter has been expanded to include all of NASA's IBM-based mainframe computers from all NASA Centers. It supports about 20,000 customers in consolidated operations.

Both the SPF and NACC use external security software (ACF2 and RACF) to provide logical security to the computing environment, including control over system software and application software access.

Objective

The objective is to determine whether security software has been implemented to provide an appropriate level of security in respective computing environments.

Checkout and Launch Control System Migration [Audits]

Potential Locations: KSC

develop a new system, the Checkout and Launch Control System. The Checkout and Launch Control System has an aggressive 5-year schedule. The project requires a complete review of the functional requirements of hardware, system software, and end-user application software. A unique project management approach is being used to deliver the system in 10 incremental deliveries, one every 6 months. Because these 6-month deliveries are integral to the success of the project, in-depth involvement by the user community is a key element to the project's success.

KSC's existing launch processing system supports the Space Shuttle program with 1970's technology, which is unreliable and limited in growth potential. Studies conducted in 1996 resulted in a decision to

Objectives

The objectives are to evaluate internal control issues in all critical phases of the migration life cycle and provide management with timely feedback. The audit will evaluate control issues associated with:

- Project management.
- Systems requirements definitions for real-time processing, the business and information network, the Shuttle data center, and simulation systems requirements.
- Security architecture and requirements.
- Testing and implementation of application and system software.

**Information Technology Security Staff
Qualifications, Training, and Development
[Inspections]**

Potential Locations: HQ, LeRC

Communications and computer security, also known as ITS, is not recognized as a civil service job series. Many NASA civil servants and contractors who have job-related responsibilities in this specialty are performing these duties as an

additional or collateral assignment. The personnel who are assigned these duties come from diverse work backgrounds. As the Agency's reliance on its information resources expands and attendant risks and threats grow, the capability of the staff tasked to protect the resources assumes a greater importance.

Objectives

The objectives are to:

- Determine the minimum and optimum levels of training, qualifications, and experience necessary to perform ITS functions.
- Assess NASA's performance in providing adequate training and development for the staff tasked with performing this function.
- Evaluate NASA's capability to recruit and retain highly qualified ITS staff.

2. INFORMATION TECHNOLOGY PROGRAM

**Year 2000 Program Implementation Phase
[Audits]**

Potential Locations: HQ, Selected Centers

As of March 31, 1999, NASA expects to have corrected, tested, and implemented all of its systems that have Y2K problems. The implementation phase is the last of five phases

involved in the process. Specifically, the implementation phase objectives are to implement fully tested and Y2K compliant applications, systems, firmware, and hardware into production or operations. This phase also requires that systems be able to exchange data with other systems, and that contingency plans be developed for all mission-critical systems.

Objectives

The objectives are to:

- Evaluate the adequacy of NASA's efforts to implement all of its Y2K systems that had date problems.
- Determine whether information reported to OMB on these efforts is accurate and well supported.

Systems Development [Audits]

Potential Locations: HQ, Selected Centers

In FY 1999, NASA estimates that it will invest approximately \$1.63 billion in IT to support space exploration, science, and technology goals. This

investment supports about 50 major systems that are either high cost or of critical management importance, as well as a broad portfolio of supercomputer, mainframe, desktop, and communications applications. For FY 1999, the NASA Information Technology Implementation Plan identified eight major new IT investments totaling \$425 million. NASA Procedures and Guidance (NPG) 7120.5A identifies the program control activities program developers are required to perform and also provides direction over budget, schedules, procurement, and overall program management.

Objective

The objective is to evaluate the adequacy of NASA's system development efforts with emphasis on the adequacy of NASA's guidance and program management controls over the development process.

Computer Hardware and Software Maintenance [Audits]

Potential Locations: HQ, Selected Centers

repair and maintenance, systems engineering, and software maintenance and modification. NASA typically rates the contractors' performance based on criteria such as cost control, service quality, and timeliness of performance. The ratings are used as the basis for determining the amount of award fees on applicable contracts.

NASA uses various contractors to provide maintenance support for its computer hardware and software. The support includes on-site contractors performing hardware installation,

Objective

The objective is to determine whether NASA's computer hardware and software are maintained in the most cost-effective and efficient manner.

Information Technology Contracting Requirements [Audits]

Potential Locations: HQ, Selected Centers

over \$1 billion of the annual IT budget to be spent on contracts.. NASA places numerous requirements on its contractors to comply with applicable IT laws, regulations, policies, and other guidelines. These requirements are often stated in contracts and open to the contractors to interpret.

NASA contracts out approximately 90 percent of its total budget to obtain various goods and services, including IT. IT budgets for FYs 1999 through 2003 range from \$1.4 to \$1.6 billion, with

Objectives

The objectives are to determine whether NASA is meeting applicable IT requirements. Specifically, we will determine whether:

- IT requirements included in NASA contracts are current, complete, and accurate.
- Contractors are complying with IT requirements.
- NASA is adequately overseeing the IT requirements process.

Implementation of the Clinger-Cohen Act [Audits]

Potential Locations: HQ, Selected Centers

information technology management practices that Federal agencies must use to improve their performance in terms of mission goals, costs, and risk management. The Act also prescribes processes for IT capital planning and acquisition, and describes the duties and qualifications of an agency's CIO. A prior NASA OIG audit showed that NASA has not fully complied with requirements of the Act for post implementation evaluations of IT investments. A previous GAO audit showed that although NASA was one of the first Federal agencies to appoint a CIO and has taken some good first steps toward improving its information resources management, opportunities still exist to enhance the CIO's authority.

The Clinger-Cohen Act (formerly known as the Information Technology Management Reform Act) became effective in August 1996. The Clinger-Cohen Act (the Act) describes

Objectives

The objectives are to determine whether NASA has fully and effectively implemented Clinger-Cohen Act requirements. Specifically, we will determine whether NASA has:

- Clearly and effectively established the role and responsibilities of the CIO relative to operational IT requirements and IT research and development.
- Implemented adequate procedures and practices to address the issues raised in the August 1996 GAO report, including taking steps to improve the CIO's visibility and control of IT issues.
- Implemented adequate IT acquisition and security procedures, and appropriate IT performance measures.

D. FINANCIAL MANAGEMENT

Contract Payments Electronic Funds Transfer and Controls [Audit]

Potential Locations: *GSFC, LaRC, MSFC*

The Debt Collection Improvement Act of 1996 requires that all Federal payments, with the exception of tax refunds, will be made electronically by January 2, 1999. Waivers will be

available to recipients when the cost of using electronic fund transfer for a non-recurring payment is greater than the cost of making that payment by check. NASA decided to implement this requirement in 1996 instead of waiting until 1999 when the requirement would be mandatory. A comparison of vendor payments made to NASA in FY 1997 by electronic fund transfer versus check showed that 154,379 (77 percent) of vendor payments were made by electronic fund transfer compared to 47,479 (23 percent) made by check.

Objectives

The objectives are to evaluate the internal controls associated with the electronic fund transfer payments to contractors and to review compliance with existing rules and regulations. Specifically, to evaluate:

- Significant internal controls that relate to contractor invoices paid by electronic fund transfer.
- The waiver process.

Transactions by Others [Audits]

Potential Locations: *HQ, GSFC, MSFC*

Transfers of funds between Federal agencies may be accomplished by using the Department of the Treasury's (Treasury) On-Line Payment and

Collection System, or by issuance of a Treasury check. Under the interagency payment process using the On-Line Payment and Collection (OPAC) System, an agency that provided goods or services to NASA directly accesses a general NASA account at Treasury, transfers funds that the providing agency claims to be due, and sends a notice to NASA through the OPAC System that the funds have been withdrawn from the NASA account.

The OPAC system allows direct adjustment of appropriations by the Treasury through processing of billing data. This system also enables NASA to collect reimbursements or receive payments immediately through the Treasury instead of establishing accounts receivables or payables. The system transfers funds from the customer agency account and notifies the customer after the transaction is completed. For FY 1997, NASA OPAC disbursements were approximately \$2 billion.

Objectives

The objectives are to determine whether:

- Controls were effective in preventing ineligible payments or payments that exceeded the interagency agreement cost ceilings.
- Financial records substantiate costs.

Reimbursable Pricing [Audits]

Potential Locations: *GSFC, JPL, LeRC*

NASA is authorized to perform services or supply items to Federal and non-Federal entities on a reimbursable basis. NASA will not initiate work or

services nor incur reimbursable obligations without a reimbursable order or agreement (Reimbursable Agreement Number), and reimbursable funds. Generally, non-Federal customers are billed and pay in advance. Once the work is completed, actual costs are determined. If the actual cost exceeds the estimate, the customer is billed for the difference. Federal customers generally are billed and pay after the service is performed or the item delivered. For FY 1997, NASA had total reimbursable costs of \$663.8 million, of which \$60.9 million represented reimbursement from non-Federal customers and \$602.9 million represented reimbursement from Federal customers.

Objectives

The objectives are to determine whether reimbursements are accurately determined and accounted for. Specifically, to determine whether:

- Reimbursable agreements are complete.
- Estimated Price Reports were accurately computed on a full-cost basis.
- Amounts due were appropriately billed and collected.
- Reimbursable data was accurately reported in the Reimbursable Obligation and Cost Reporting System.

Debt Collection Management [Audits]

Potential Locations: *GSFC, JSC, KSC*

The Federal Claims Collection Act of 1966 (31 U.S.C. 3711) requires agencies to try to collect a claim of the Government for money or property

arising out of the activities of, or referred to, the agency. Additionally, the Debt Collection Improvement Act of 1996 has precipitated changes to increase Government effectiveness in the management of claims.

Each NASA Center is required to take timely, aggressive action to effectively follow up on and collect all accounts receivable for money or property arising out of the activities of NASA. Each Center maintains information on the number, amount, age, and collection status of accounts receivable and on accounts written off as uncollectible. When receivables become 180 days past due, the debt is transferred to the Treasury for collection. As of September 30, 1997, NASA's total delinquent debt was \$14,108,194, and amounts written off were \$474,445.

Objectives

The objectives are to determine whether debt collections are effectively managed. Specifically, to determine whether:

- Debt collections are properly monitored and accurately recorded.
- Interest and penalties are accurately assessed and applied to all delinquent debt.

- Debts over 180 days old are submitted to the Treasury for collection.
- The Report on Receivables Due From the Public is accurate.

NASA Reporting to IRS [Audits]

Potential Locations: GSFC, JSC, MSFC

The United States Code (U.S.C.) and Code of Federal Regulations (CFR) require payors, including Federal

agencies, to report to the Internal Revenue Service (IRS) certain payments for services obtained from corporations, when the cost of those services total \$600 or more in a calendar year. NASA financial offices report this information to the IRS using IRS Form 1099-MISC, "Miscellaneous Income." This reporting permits the IRS to identify payments that are taxable but are not subject to tax withholding.

The U.S.C. and CFR also require that the heads of Federal agencies provide information to the IRS, including name, address, and taxpayer identification number and other pertinent information. In 1997, NASA submitted 5,256 IRS Form 1099-MISC, totaling \$5.7 billion, to the IRS.

Objectives

The objectives are to evaluate whether NASA is complying with Federal requirements for tax reporting. Specifically, to determine whether:

- Payments to corporations were reported to the IRS as required using IRS Form 1099-MISC.
- Information on certain contracting actions are properly reported to the IRS when appropriate.

Obligations Management Validity and Timing [Audits]

Potential Locations: HQ

NASA is required to record and report obligations promptly against applicable allotments and resources authority. The obligation must be for transactions that represent bona fide needs

existing during a given period. An appropriation limited for obligation to a definite period is available only for payment of expenses properly incurred during the period of availability, or to complete contracts properly executed within that period of availability. Goods or services required pursuant to contracts entered into or orders placed obligating a specific period for appropriation must serve a bona fide need existing in the fiscal year(s) specified by law. The balance of an appropriation or fund which has not been obligated must be returned to the general fund of the Treasury at the end of a definite period.

Objective

The objective is to determine whether year-end obligations are valid and proper.

IFMP/Security and Internal Controls Working Group [Audits]

Potential Locations: HQ

The Security and Internal Controls Advisory Group (Group) was formed to address the security and internal control issues related to the configuration and implementation of the

Integrated Financial Management system at all NASA Centers. The Group will be cochaired by the Process Implementation Manager from the Integrated Financial Management Project (IFMP) staff and the Program Director for Information Assurance Audits from the Office of the Inspector General. The Group will report to the NASA Associate CFO and the NASA Assistant Inspector General for Auditing.

The Group will develop the IFMP approach to security and internal controls in concert with the appropriate functional owner policies. The guidance developed by the Group is necessary to provide interim and long-range security and internal control planning for the Integrated Financial Management system and processes. The Group will provide a forum to resolve these issues with the participation from functional managers, the IFMP staff, the NASA CIO, and the NASA OIG. The Group will be supported by the Independent Verification and Validation agent.

Objective

The objective is to provide an approach to the Director of the IFMP, a joint NASA/OIG approach for resolving security and internal control issues related to the implementation of the Integrated Financial Management systems and processes.

Appendix B — Carryovers

ENTERPRISE: EARTH AND SPACE SCIENCE (Formerly Mission to Planet Earth)

Earth Science Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Audit of Commercial Remote Sensing Program Office	Audits	A-HA-98-036	Based on prior work on A-HA-98-001, we are evaluating planned data purchases during Phase II of the program, including actions on Congressionally mandated future buys. We are also reviewing program office progress in meeting mission goals and objectives.
EOS Common Spacecraft	Audits	A-HA-98-040	NASA awarded a basic contract, valued at \$398.7 million, for delivery of two EOS Common Spacecraft (PM-1 and Chemistry-1). The contract contains many performance incentives. We are reviewing planned schedule and costs, quality control, and award fee determinations.
Earth Science Launch Service Support	Audits	A-HA-98-048	NASA management was concerned that launch services delays could significantly impact the Small Satellite program. We are evaluating launch delay problems to determine their extent and causes.
Advanced X-ray Astrophysics Facility (AXAF)	Audits	A-HA-98-025	NASA announced that the AXAF contractor would not be able to deliver the spacecraft on time, thereby causing NAS to reschedule the launch. We are determining what caused the delay and what is being done to successfully meet the new launch date.

Space Science Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Hubble Space Telescope Cost Reduction Initiatives	Audits	A-HA-98-047	HST program operating costs exceed \$225 million per year. To help ensure costs are minimized, we are assessing cost reduction plans, reimbursements from users, and the use of full cost accounting.

Human Exploration and Development of Space Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Space Station Corrective Action Plans and Other Management Initiatives	Audits	A-HA-98-020	Corrective action plans help minimize cost overruns and schedule slippages and provide program managers with useful data on contractor performance. We are evaluating ISS plans and other initiatives intended to improve program management.
Space Station Contingency Planning for International Partners	Audits	A-HA-98-031	NASA needs contingency plans that respond effectively so that the ISS program is not jeopardized by non-performance of an international partner. We are assessing the adequacy those plans.
Program Surveillance of the Space Flight Operations Contract	Audits	A-HA-98-049	Surveillance of the SFOC contract is necessary to verify and evaluate contractor performance, and support the flight readiness review process. We are determining the adequacy of oversight provided by the program office.
International Space Station Phase I to Phase 2 Transition	Inspections	G-98-012	Phase I of the ISS Program consisted of long-duration missions aboard the Russian Space Station Mir. Phase I was to provide knowledge and experience to aid in planning the ISS. We are determining whether the knowledge and experience gained during Phase I is being effectively applied in Phase II of the program.

Aeronautics and Space Transportation Technology Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
X-33 Program Cooperative Agreements NCC8-115	Audits	A-HA-97-048	Since the program is being performed under a \$1.1 billion cooperative agreement, we are evaluating the appropriateness of this approach to such a major program.
X-33 Program Funding Issues	Audits	A-HA-98-002	Prior OIG work determined that NASA is using a unique practice to fund this program. Our audit will determine whether the funding concept used adversely affects NASA reports and financial statements and complies with mandated funds controls and laws
Small Usable Booster (X-34) Development Program	Audits	A-HA-98-050	The X-34 Program will enhance U.S. space launch capabilities by developing and demonstrating key technologies for future low-cost, reusable launch vehicles. We are assessing program management effectiveness and conformance with NASA Program Management Guidance in 7120.5A.
Small Business Technology Transfer Program	Partnerships	N/A	This program uses small business to meet Federal research and development needs. We are evaluating compliance with program guidance, the commercial benefits derived, and program costs.
Advanced General Aviation Transport Experiments	Partnerships	P&A-98-007	AGATE is a Government-industry-university cooperative effort, based on 50/50 cost-sharing, to develop design guidelines, systems standards, and certification methods for new general aviation technology. We are assessing NASA's participation, the extent of partnering between members, and overall program results and achievements.
National Polar-Orbiting Operational Environmental Satellite System (NPOESS) Technology Transfer	Partnerships	P&A-98-008	We are assessing the effectiveness of the technology transfer process, especially transfer of instrument technology.
Advanced Air Transportation Technology (AATT)	Partnerships	P&A-98-009	We are assessing AATT program accomplishments and partnering relationships. AATT goals are to develop high-payoff technologies to benefit the civil aviation industry.

Procurement and International Agreements Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Contractor Acquired Facilities at JSC	Audits	A-HA-97-006	Audits of NASA contractor facility leases at other locations identified problems with space utilization and lease classifications. These problems increased lease costs by millions of dollars. We are determining whether JSC contractor facilities were effectively utilized, leases were correctly classified, and lease costs billed to NASA were accurate.
NASA General-Purpose Vehicles Acquisition and Use	Audits	A-HA-97-068	A prior audit of NASA-wide use of Government vehicles identified instances of improperly authorized home-to-work use of vehicles at four Centers. This review further evaluates this area to ensure NASA compliance with existing regulations governing the use of general-purpose vehicles..
Health and Human Services Audit Service Provided to NASA	Audits	A-HA-98-037	HHS provides NASA with certain audit services. Under our normal contract audit oversight responsibilities, we are reviewing the services and related billings to ensure that they are reasonable and accurate.
NASA Subcontract Management and Oversight	Audits	A-HA-98-039	Since subcontractors receive significant amounts of NASA funds, subcontract management has been considered a high risk area for NASA. We are determining whether subcontracting activities on selected JSC prime contracts are properly awarded and managed.
Earned Value Management (EVM) at NASA	Audits	A-HA-98-042	EVM is an initiative to improve program management NASA-wide. This review is assessing the extent and effectiveness of NASA's EVM implementation.

Facilities and Equipment Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Management of NASA-Held Equipment	Audits	A-HA-98-028	We are reviewing over \$4 billion of NASA-held equipment to ensure that it is effectively managed, and accurately valued and recorded.
Aircraft Disposal Process	Inspections	G-98-010	This special review is a follow up to a 1996 OIG audit report and recent investigative activity. We are evaluating aircraft disposal actions to determine whether they are approved, processed, and reported properly and whether property records are current, accurate and complete.
Goldstone Facility Transportation Services	Inspections	G-98-013	The Goldstone tracking facility is operated under a subcontract with Allied Signal Technical Services Corporation. Among the services provided are transportation services, including operating and maintaining Government-owned vehicles. We are evaluating vehicle usage and the analyses prepared on equipment repair and replacement.

Environment Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Contractor Compliance with Environmental Clauses	Audits	A-HA-98-021	NASA contracts should contain adequate clauses to protect against environmental irregularities or noncompliance by prime contractors and subcontractors. This audit is examining whether NASA has the necessary safeguards to ensure contractor compliance with key environmental requirements.

Information Assurance Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Numerical Aerodynamic Simulation (NAS) Facility	Audits	A-HA-97-016	We are auditing the general controls of the NAS data center at ARC to ensure effective controls provide data and applications with adequate security and integrity. Effective controls are critical to safeguarding the many applications owned and processed by various scientists and organizations worldwide.
Computer-Aided Design and Manufacturing	Audits	A-HA-97-023	We are evaluating the general controls of the LeRC data center to ensure they are adequate. As in A-HA-97-016, integrity and security are critical because most of LeRC's major scientific applications are processed by the data center.
Disaster Recovery Planning at JPL Disaster Recovery Planning at JSC Disaster Recovery Planning at KSC Disaster Recovery Planning at GSFC Disaster Recovery Planning at ARC	Audits	A-HA-98-011 A-HQ-98-013 A-HA-98-016 A-HA-98-017 A-HA-98-038	We are performing this series of audits because if capabilities are not in place for extended backup operations and functional workarounds in the event of a disaster, various NASA missions could be negatively impacted. These missions include the Shuttle (JSC), Deep Space Network (JPL), Launch Processing (KSC), and various missions at GSFC. such as SOHO and the Hubble Telescope.
Year 2000 Date Problem	Audits	A-HA-98-032	Because some systems impact life and safety, we are assessing NASA actions to correct date problems in order to avoid processing problems with both IT and non-IT systems. We plan to follow these actions throughout NASA's life cycle (which goes through March 1999) for correcting the problems.

Information Technology Program Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Year 2000 Program Phase Status	Audits	A-HA-98-004	We are assessing adequacy of NASA's Y2K compliance program. The audit is needed to ensure the adequacy of NASA's efforts to renovate and validate systems with Y2K date problems, and to ensure that the related information reported to OMB is accurate and well-supported.
Year 2000 Program Oversight of NASA's Production Contractors	Audits	A-HA-98-044	In assessing and correcting problems related to Y2K, NASA needs to ensure that it can rely on the related information provided by its contractors. We are evaluating NASA's oversight of its production contractors regarding their efforts to achieve Y2K compliance.
Review of Delivery Order Placement Under ODIN Contracts	Audits	A-HA-98-046	NASA expects to place up to \$13.1 billion of delivery orders under the ODIN contracts. Due to the impact this will have on the Agency's budget and operations, we are assessing plans and procedures for processing these orders.
Flight Termination/Command Destruct Systems	Inspections	G-98-011	To ensure range safety and protection for personnel and property, the National Security Telecommunications and Information Systems Security Committee (NSTISSC) issued a national policy on February 17, 1988, titled, <i>NSTISSP No. 100, National Policy on Application of Communications Security to Command Destruct Systems</i> . We are evaluating NASA compliance with NSTISSP No. 100 and related procedures and practices.

Financial Management Carryover Projects

Project Title	IG Program Area	Assignment Number	Purpose
Full-Cost Initiative Implementation	Audits	A-HA-98-022	Beginning with FY 1998, Federal law and financial accounting standards require NASA to account for the full costs of programs and activities. We are assessing NASA's progress in implementing the requirements, effectiveness of the procedures being developed, and how costs are reported.
Recording Obligations and Adjustments	Audits	A-HA-98-026	Failure to timely record and review obligations affects the accuracy of operating costs and budget execution, and increases the risk of erroneous payments and exceeding the amount of funds available. We are determining if NASA is recording obligations timely and reviewing them for accuracy.
Integrated Financial Management Project Contractor Oversight	Audits	A-HA-98-030	IFMP is a major NASA initiative to have a single, fully-integrated financial management system. This effort is being accomplished by a contractor. We are evaluating the IFMP contractor's performance and NASA's oversight of the effort.
FY 1998 Financial Statement Oversight	Audits	A-HA-98-035	The OIG contracted with an independent public accountant (IPA) firm to conduct the FY 1998 financial statement audit. We are monitoring the IPA's work to ensure it is conducted in accordance with generally accepted Government auditing and other standards ..
Matching Disbursements to Obligations	Audits	A-HA-98-045	Improper payments and cumulative disbursements that exceed appropriated amounts can result from inaccurately matching funding disbursements with corresponding obligations. We are reviewing NASA's process to ensure disbursements are properly recorded.

Appendix C — Prior Work

ENTERPRISE: EARTH AND SPACE SCIENCE (Formerly Mission to Planet Earth)

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	EARTH SCIENCE	
1998	NASA's Plans to Successfully Achieve the EOS Science Objectives	Audits
	Earth Observing System Data and Information System Federation Plan	Audits
	Dissemination of Earth Science Program Data and Information	Audits
	Management Controls on the Earth System Science Building Contract	Audits
	Proposed Remote Ground Terminal on Guam	Audits
1997	Use of EOS Ground Stations in Lieu of the TDRSS	Audits
	EOSDIS Facility Contract Management	Audits
	Commercial Use of NASA's TDRSS	Audits
	Planning and Solicitation of the CSOC	Audits
1996	EROS Data Center DAAC Facility Addition	Audits
	EOSDIS DAAC	Audits
	EOSDIS Global Hydrology and Climate Center at MSFC	Audits
	EOS Instrument Contract Award Fees	Audits
	SPACE SCIENCE	
1997	ARC's Support of SETI's High Resolution Microwave Survey Program	Audits
	Privatization of the NASA Sounding Rocket Program	Audits
	Risk Assessment of the Jet Propulsion Laboratory	Audits
	Technology and Applications Program Bid and Proposal Costs	Audits
	Review of the NASA/Commercial Agreement and Management of the Polar-Orbiting Operational Environmental Satellite (POES) Program	Partnerships
1996	Cassini Program Management	Audits
	Sounding Rocket Program Acquisition, Inventory, and Storage of Rocket Motors	Audits

ENTERPRISE: HUMAN DEVELOPMENT and EXPLORATION OF SPACE

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	SPACE STATION	
1998	Space Station Performance Measurement Cost Data	Audits
	Space Station Configuration Management	Audits
	NASA's Financial Assistance to Foreign Visitors	Inspections
	Enhancing Compatibility for Long-Duration Space Flight Crews	Inspections
	Observations and Recommendations on the Phase I NASA-Mir Science Program	Inspections
	Shuttle-Mir Rendezvous and Docking Missions and International Space Station Operation Readiness Task Forces	Inspections
	Timing of Independent Team Meetings and Communications for Shuttle-Mir and International Space Station Missions	Inspections
	Observations and Recommendations Regarding Long-Duration Astronaut Debrief and Post-Mission Report Processes	Inspections
1997	Space Station Change Order Process	Audits
	Clear Lake Development Facility--Neutral Buoyancy Laboratory Requirements	Audits
	Space Station Performance Measurement Cost Data	Audits
	Letter to Congress Concerning Shuttle-Mir Program	Inspections
1996	Boeing Overhead Rate Issue	Audits
	Space Station Prime Contractor Performance Management	Audits
	Space Shuttle Safety Review	Audits
	Space Station Facility Requirements	Audits
	Russian Involvement in the International Space Station	Audits
	Space Station Restructuring	Audits
	SHUTTLE	
1998	Followup Audit on Orbiter Maintenance Down Periods at KSC	Audits
	Single Source Suppliers of Critical Items	Audits
	NASA Science Research Institutes	Audits

ENTERPRISE: HUMAN EXPLORATION AND DEVELOPMENT OF SPACE (Continuation)

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	Billing Frequency and Early Payment on Long-Term Contracts	Audits
	Transportation Costs for Non-NASA Payloads Flown in the SPACEHAB Module	Audits
1997	Shuttle Processing Contract Subcontracting Circumstances Indicating Procurement Fraud	Audits
	Space Flight Operations Contract Performance Metrics	Audits
	Space Shuttle Restructuring	Audits
	<p style="text-align: center;"><i>Management Letters</i></p> <ol style="list-style-type: none"> 1. Acquisition of Architectural and Engineering Service by SFOC Contractor 2. Facilities Projects and Fees Paid Thereon 3. Reporting of Federal Acquisition Regulation Deviations 4. Novation of Contracts to United Space Alliance 5. Public Law 85-8504 Does Not Clearly Provide Authority for Indemnification 6. Definitization Process Definition and Action Plan 7. Provisional Billing Rates and Reimbursement Ceiling Rates 8. Fee Forfeiture Upon Loss or Catastrophic Damage to Shuttle Resources 9. Consideration for Frequent Billing and Expedited Payment 10. Unrealized Award Fee Reduction to Space Operations Contract 11. Space Station Lower-Tier Subcontractor Reporting and Recovery Plans 	
1996	Workload Scheduling and Control	Audits
	Impacts of Performing Orbiter Maintenance Down Periods at KSC vs. Palmdale	Audits
	SPACEHAB Commercial Mid-Deck Augmentation Module Project	Audits
	Payload Ground Operations Subcontracting	Audits
	COMMUNICATIONS	
1998	TDRSS Single Access Service Reimbursable Rate	Audits
	Commercial Use of NASA's TDRSS	Audits
	Planning and Solicitation of the CSOC	Audits
	Consolidated Network and Mission Operations Support Contract	Audits

ENTERPRISE: AERONAUTICS AND SPACE TRANSPORTATION TECHNOLOGY

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
AEROSPACE AND SPACE TRANSPORTATION		
1998	Facility cost Recovery Policies	Audits
	Aeronautics Program Grant Financial Transactions	Audits
	X-33 Program Security Management	Inspections
1997	Reusable Launch Vehicle Program	Audits
	Survey of X-33 Task Agreements	Audits
	Charges for the Use of NASA's Facilities by DoD's Joint Strike Fighter Program	Audits
	Civil Service Work Force Reporting at the Aeronautics Centers	Audits
	High Speed Research Prime Contractor Performance	
1996	Adequacy of the Research and Technology Base	Audits
TECHNOLOGY TRANSFER AND COMMERCIALIZATION		
1998	National Technology Transfer Center	Audits
1996	Review of New Technology Reporting	Partnerships

ENTERPRISE: CROSSCUTTING FUNCTIONS

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
INFRASTRUCTURE AND SUPPORT <i>Procurement and International Agreements</i>		
1998	Use of Government Credit Card by Someone Other than the Cardholder	Audits
	NASA's Integrated Financial Management Project--Time and Attendance/Labor Distribution Module	Audits
	Contractor Facility Leases	Audits
	NASA's International Merchant Purchase Authorization Card Program	Audits
	Risks Associated with ARC's Acquisition of Military Family Housing	Audits
	NASA Costs Paid to Rehired Former JPL Employees	Audits
	Survey on the Joint Base Operations and Support Contract	Audits
	Review of NASA Single Process Initiative (SPI)/Block Change Process Implementation	Partnerships
1997	ISO 9000 Contract Support	Inspections
	Review of NASA Cooperative Agreements with Large Commercial Firms	Partnerships

ENTERPRISE: CROSSCUTTING FUNCTIONS (Continuation)

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	<i>Facilities and Equipment</i>	
1998	Property Disposal Outsourcing	Inspections
	NASA Aircraft Disposal Process	Inspections
	NASA Property Survey Boards and Officers	Inspections
1997	Inactive or Excess Property at Selected Contractors	Audits
	Construction of Facilities Projects	Audits
	MSFC Base Maintenance Contracting Activities	Audits
	MSFC Vehicle Fleet Conversion	Audits
	21-inch Hypersonic Tunnel at Plumbrook Station	Audits
1996	Facilities Operations and Maintenance at KSC	Audits
	Planned Construction of Facilities at JPL	Audits
	Johnson Space Center Information Technology Equipment Replacement	Inspections
	<i>Operations</i>	
1998	Lewis Security Management	Inspections
1996	Moving Support Service Contractors On-Center at LaRC	Audits
	Aircraft Consolidation at DFRC	Audits
	Closure of the LeRC Fire Department	Inspections
	NASA Headquarters Workers' Compensation Program	Inspections
	ENVIRONMENT AND SAFETY MANAGEMENT	
	<i>Environment</i>	
1998	Cost Sharing for Santa Susana Field Laboratory Cleanup Activities	Audits
	LeRC Hazardous Waste Manifest Process	Audits
	KSC Recycling Efforts	Audits
	Efforts to Eliminate Ozone Depleting Chemicals from Space Shuttle Operations	Audits
1997	Cost Sharing for Cleanup Activities at JPL	Audits
	Status of Plumbrook Station Nuclear Reactors	Audits

ENTERPRISE: CROSSCUTTING FUNCTIONS (Continuation)

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	<i>Safety and Mission Assurance</i>	
1998	Modifications to the NASA Safety Reporting System	Audits
1996	Space Shuttle Safety Review	Audits
	INFORMATION TECHNOLOGY <i>Information Assurance</i>	
1998	NASA Data Center General Controls–Shuttle Processing Data Management System	Audits
	NASA Data Center General Controls–JPL	Audits
	NASA Data Center General Controls–GSFC	Audits
	NASA Data Center General Controls–JSC	Audits
1997	Mission Operations and Data Processing Facilities	Audits
	Institutional Processing Facility	Audits
	Shuttle Software Production Facility	Audits
	Shuttle Processing Data Management Facility	Audits
	Supercomputing Network Subsystem and Distribution	Audits
	MASS Storage	Audits
	NASA ADP Computer Center	Audits
	<i>Information Technology Program</i>	
1998	Application of OMB Circular A-76 to Desktop Outsourcing	Audits
	Consolidation Decision for Secure Supercomputer	Audits
	Improved Controls Needed Over NASA's Supercomputing Inventory	Audits
	Information Technology Capital Planning and Investment Control	Audits
	Outsourcing of Desktop Computers	Audits
1997	Collection and Processing of NAS Research Results	Audits
	Need to Reflect Off-Site Computer Resources in ODIN Study	Audits

ENTERPRISE: CROSSCUTTING FUNCTIONS (Continuation)

FISCAL YEAR	PROJECT TITLE	IG PROGRAM AREA
	<i>Financial Management</i>	
1998	Oversight of NASA FY 1997 Financial Statements	Audits
1997	Oversight of NASA FY 1996 Financial Statements	Audits
	Early Phases of NASA's Integrated Financial Management Project	Audits
	Financial Management Procedures for Supply and Acquisition	Audits
1996	NASA FY 1995 Financial Statements	Audits
	GSFC Center Director's Discretionary Fund	Audits
	JPL Trial Balance of General Ledger Accounts Report	Audits
	MSFC Center Director's Discretionary Fund	Audits
	American Express Travel Card Program	Inspections

Appendix D — Points of Contact

The OIG values the comments and recommendations of our stakeholders, customers, partners, employees, and the contractor community. Should you have questions about the OIG or its mission, or if you have suggestions on areas and processes that we should include in our work plan, please contact the following individuals:

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Appendix E — NASA OIG Performance Plan (Text Version)

Introduction

We are committed to protecting NASA personnel and resources through providing the finest audit, investigative, inspection, and process review capabilities available. We are proud of our many accomplishments in support of the NASA mission and look forward to a new millennium.

This performance plan supports our mission, vision, strategic plan, and the annual goals we have established for FY 1999. It contains elements required by the Government Performance and Results Act (GPRA) of 1993.

We have coordinated the FY 1999 annual goals stated in this plan to accomplish those strategic goals set forth in our Strategic Implementation Plan published October 1997. In addition, this plan describes:

- Our FY 1999 outcome goals
- Our performance measures for achieving the FY 1999 annual goals
- Our resource requirements
- Our challenges in accomplishing FY 1999 annual goals
- Our program evaluation, validation, and verification strategies.

During the FY 1999 performance period, we will assess our Strategic Implementation Plan to assure its applicability and usefulness. We will reevaluate our strategic goals and seek improvements relative to program and Agency requirements. This Annual Performance Plan, like the Strategic Implementation Plan, is an evolving document subject to reevaluation and modification to improve our service to NASA and, ultimately, the tax payers.

OIG Mission

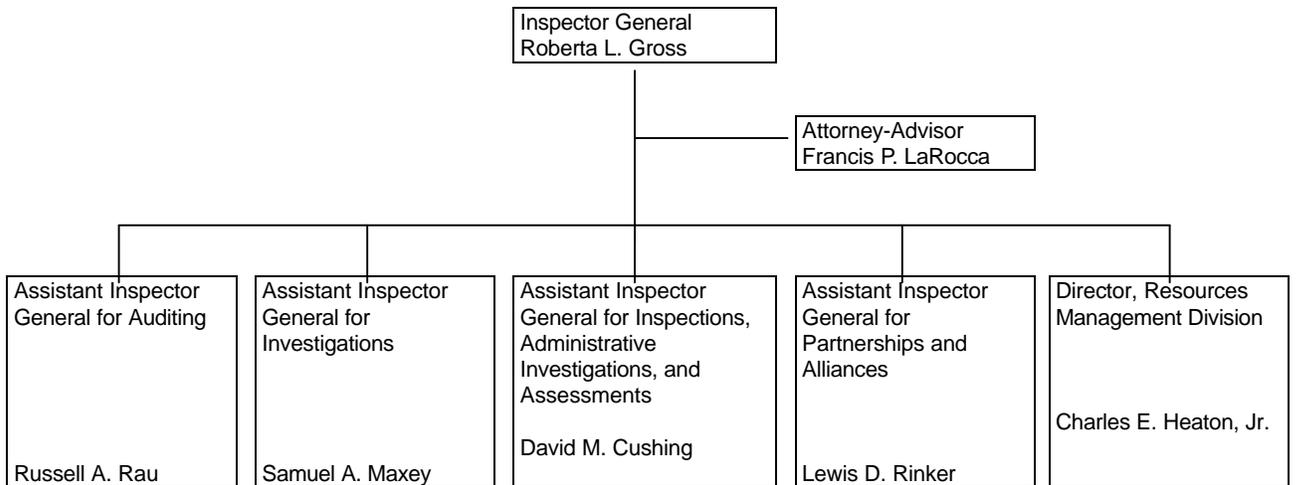
The Office of Inspector General (OIG) is an independent office created by the Inspector General Act of 1978, as amended (Inspector General Act, P.L. 95-452). That act prescribes that the IG will:

- Conduct and supervise independent and objective audits, investigations, inspections, and other reviews
- Promote economy, efficiency, and effectiveness
- Prevent and detect fraud, waste, and mismanagement
- Recommend improvements to legislation and regulations
- Keep the Administrator and Congress informed

OIG Values

The employees of the NASA OIG place great value on:

- Products and services that are timely, accurate, relevant, and useful
- Independence, integrity, creativity, and objectivity in our work
- Cooperation and effective communication among ourselves and with others
- A service-oriented attitude toward our customers and key decision-makers
- A work environment that provides for professional growth and diversity



Organization

The NASA OIG consists of the Inspector General, four program offices, and two support components. The program offices are the Office of Audits; the Office of Investigations; the Office of Inspections, Administrative Investigations, and Assessments; and the Office of Partnerships and Alliances. Each of the program offices is administered by an Assistant Inspector General. The two support components are Legal Services and the Resources Management Division. To maximize resources and respond efficiently to evolving requirements, the OIG effectively uses matrixed teams to perform assignments.

Office of Audits

The Office of Audits provides a full range of value-added professional audit and review services in response to our assessment of the high risk areas in the audit universe; statutory and regulatory requirements; and the needs of Congressional and NASA leadership. Audit emphasis is placed on issues involving safety, procurement, information technology, fiscal operations, NASA Enterprise management and the environment.

Office of Investigations

The Office of Investigations conducts criminal investigations in which NASA is a victim. These investigations involve false claims; false statements; conspiracy; theft; mail fraud; violations of Federal laws, such as the Procurement Integrity Act and the Anti-Kickback Act. They also investigate acts of noncompliance with NASA Management Instructions, the Federal Acquisition Regulation (FAR), and the CFR. NASA's vulnerability to cyber attacks requires an investigative emphasis on computer and network intrusions.

Office of Inspections, Administrative Investigations, and Assessments

The Office of Inspections, Administrative Investigations, and Assessments (IAIA) provides independent and objective inspections and assessment of the effectiveness, efficiency, and economy of NASA's programs and operations. They also conduct administrative investigations of noncriminal matters.

Office of Partnerships and Alliances

The Office of Partnerships and Alliances (P&A) provides proactive assistance and information to NASA managers by identifying opportunities to foster, expand, and enhance partnership activities.

Legal Services

Legal Services provides legal advice and assistance to the Inspector General and all members of the OIG staff on a variety of matters relating to the OIG's review of Agency programs and operations.

Resources Management Division

The Resources Management Division supports administrative functions of the OIG that include budget formulation and execution, personnel, training, travel, facilities, logistics, and information technology systems.

Crosscutting Programs

The OIG is a matrix organization having responsibilities that crosscut all program areas. This performance plan addresses the coordination among the various OIG program areas as well as with Federal agencies and other entities. For example, auditors may work on IAIA and P&A reviews or investigations; and, personnel from other OIG disciplines work within the P&A or Audit program to improve NASA's ability to foster, expand, and enhance its internal and external partnerships and alliances. Also, P&A participates with other Government entities in the review of crosscutting issues that confront their respective organizations.

Challenges

The FY 1999 annual performance period presents us with several challenges pertaining to resources and data tracking issues.

Resource Challenge

The NASA OIG mission is a challenge by virtue of our level of funding and authorized Full-Time Equivalent (FTE) level.

Data Tracking Challenge

We are in the midst of upgrading our Nationwide Information System (NIS) and expect the upgraded system, NIS II, to be delivered and operational by early FY 1999. NIS II is the essential automated system we will use to track the data by which we measure, report, and assess the status of our annual performance goals. As with any system upgrade, we may encounter initial implementation problems such as slippage in the delivery date or software and hardware malfunctions. Although we can track performance data on our current systems, NIS II offers advanced capabilities that provide more complete data and analyses for reporting performance information.

Outcome Goals

Our Strategic Implementation Plan established three outcome goals we expect to achieve during the five year period FY 1998 to 2002. Those goals are:

- Promote and support management actions to improve NASA programs, procedures, and operations
- Enhance productivity and product quality within the OIG
- Increase recognition for the value and use of OIG products, services, and capabilities

FY 1999 Outcomes

In consideration of those overarching goals, we intend to achieve the following outcomes in FY 1999:

- A work plan that incorporates input from the OIG internal elements, NASA management, and other concerned entities
- Timely, useful products and services
- Realization of employee competencies
- Effective outreach initiatives
- Operational processes that promote continuous improvements

We have established specific performance goals and the performance measures necessary to achieve our FY 1999 outcome goals.

Strategic Goal 1:

Provide Cost Effective, Value-Added Products and Services to Decision-Makers for Guidance in Improving NASA Programs, Procedures, and Operations

Strategic Objectives:

- Focus resources on major areas and issues to identify preventive measures as well as operational, financial, and technical improvements
- Produce timely, high-quality reports and investigations that result in significant process improvements, prosecutions, and recoveries
- Identify and use new technologies and approaches to audits, investigations and reviews
- Establish quality standards and implement effective control systems

Annual Performance Goal: Provide Value-Added Products and Services

Criteria For Achieving Annual Performance Goal	Definition	Performance Measures *
Leadership and Inventiveness	We believe leadership is paramount. Our managers will lead the effort to develop and apply innovative techniques and organizational processes that complement internal and Agency goals. We will foster an environment of creativity that encourages employees to test new methods and adopt improved processes.	<ul style="list-style-type: none"> • Pursue and apply innovations that enhance the performance of audits, investigations, inspections, reviews, evaluations, and consulting services
Timely Products	We will deliver key information to management and the decision-makers in sufficient time to use in making informed decisions.	<ul style="list-style-type: none"> • Reduce the average time of report and information delivery to our clients
Appropriate Response	We will assure that we readily reply or react to inquiries and requests for information.	<ul style="list-style-type: none"> • Respond to NASA, congressional, and general public concerns, inquiries, and request for information within the scope of applicable laws regulations, and resources
Prioritization	We will provide an appropriate planning process that assures we apply our resources to important, timely issues and challenges.	<ul style="list-style-type: none"> • Conduct task reviews to ensure relevance, priority, and progress • Perform a qualitative self assessment to determine whether we successfully accomplished this goal
Productiveness	We will constantly strive to improve the quality, efficiency, and effectiveness of our products and services.	<ul style="list-style-type: none"> • Reduce the total cycle time to complete work assignments by a minimum of 10 percent annually • Increase our output and outreach over that of FY 1998 and increase the FY 2000 output over that of FY 1999

Criteria For Achieving Annual Performance Goal	Definition	Performance Measures *
Quality Processes	We will continuously review and reengineer our procedures and processes to make sure our products and services are accurate, objective, complete, useful, and timely.	<ul style="list-style-type: none"> • Implement: <ul style="list-style-type: none"> – Standard policies and procedures to conform with Government and professional standards, and President's Council for Integrity and Efficiency (PCIE) standards – Style manuals for writing reports – Administrative procedures – Internal reporting requirement for tracking resource status, acquisition, utilization, and product quality • Perform quality and management control reviews to assess whether our work and products meet established standards
Follow-up	We will be vigilant to assure that our recommendations and management's commitment to implement them are achieved.	<ul style="list-style-type: none"> • Establish efficient follow-up procedures and tracking systems to ensure corrective actions are addressed within established timeframes
Leverage and Promotion of Multiplier Impacts	We will leverage the use of audit, investigative, inspection, evaluation, and consulting services on matters of common interest to NASA, the Congress, and the Federal community to enhance the overall quality of results.	<ul style="list-style-type: none"> • Emphasize joint projects among our organizational components, NASA management, and other OIG and Federal organizations to effectively accomplish work • Post lessons learned and best practices on the NASA OIG Internet web page and other media
Prevention	We will use our products and services to promote recognition of the indicators of fraud, waste, abuse and mismanagement.	<ul style="list-style-type: none"> • Provide briefings to Agency management, staff, and other concerned parties to heighten integrity awareness and fraud deterrence
Detection	We will remain vigilant and institute processes to effectively discover, waste, abuse, and mismanagement.	<ul style="list-style-type: none"> • Identify operational and financial weaknesses and alert the Agency and recommend improvements

* Each OIG program office and component established specific performance measures applicable to their respective discipline.

Strategic Goal 2:
Maintain a Skilled, Diverse Workforce

Strategic Objectives:

- Recruit, hire, develop, and retain employees from a wide range of backgrounds who exhibit strong skills, positive attitudes, and high personal and professional values
- Maintain and fund an effective staff training and employee development system

Annual Performance Goal: Attract and Retain a Skilled, Diversified, and Committed Staff

Criteria For Achieving Annual Performance Goal	Definition	Performance Measures *
Vigorous Recruitment	We will aggressively seek out the most qualified, experienced, motivated and diverse NASA OIG work team possible.	<ul style="list-style-type: none"> • Implement a recruiting process that encourages innovative ways to seek as many qualified candidates as possible to complement a diverse, professional team environment
Professional Standards	We will maintain required professional and occupational standards, and we will establish and work under the highest standards of fairness, honesty, dedication, and integrity.	<ul style="list-style-type: none"> • Ensure that all professional staff educational and training credentials will satisfy Government, PCIE, and professional standards
Staff Development	We will plan for and provide our OIG staff with opportunities to maintain and improve their knowledge, skills, and abilities through work assignments, education, training, and exposure to new ideas and challenges.	<p>Ensure that:</p> <ul style="list-style-type: none"> • All employees will be periodically surveyed on assignment interest and developmental needs • All employees will complete and/or update an Individual Development Plan (IDP) annually

* Each OIG program office and component established specific performance measures applicable to their respective discipline.

Strategic Goal 3:
Maintain a Positive, Challenging, and Rewarding Work Environment

Strategic Objectives:

- Provide opportunities for varying assignments, responsibilities, and working relationships
- Streamline and simplify operations and procedures
- Establish effective, open lines of communication

Annual Performance Goal: Administer an Effective and Efficient Operation That Maximizes the OIG Staff Ability to Perform Their Work Functions

Criteria For Achieving Annual Performance Goal	Definition	Performance Measures *
Staff Opportunities	We will assure all members and prospective members of the OIG staff have the opportunity to succeed and advance. We will permit people to take acceptable risks, to learn from experience, and to experience personal growth.	<ul style="list-style-type: none"> • Develop prerequisites (experience, training, interdisciplinary assignments, Headquarters rotation) as part of the foundation for fostering career-enhancing opportunities • Develop Performance Plans for all OIG positions • Establish and implement an awards program that recognizes employees whose work contributes to the successful accomplishment of NASA OIG mission
Continuous Improvement	We will simplify or reengineer our internal processes to better achieve our mission.	<ul style="list-style-type: none"> • Baseline internal operational and administrative processes to determine those processes eligible for reengineering initiatives • Benchmark and adapt best practices from other NASA OIG elements or similar Federal OIG organizations • Plan and initiate program evaluation reviews to determine whether the OIG is meeting the established goals and objectives as indicated in our FY 1999 annual Performance Plan • Review the OIG's Strategic Implementation Plan and update it to consider evolving issues
Outreach Initiatives	We will actively seek out and communicate information among OIG program offices, NASA, our customers, our stakeholders, and concerned parties through a variety of media and forums.	<ul style="list-style-type: none"> • Establish an Issue Area Coordination Process that actively seeks suggestions for consideration in our annual workplan • For each annual workplan: <ul style="list-style-type: none"> – Meet periodically with NASA senior officials at NASA Centers and other field locations to discuss key program issues – Meet with DCAA and other external organizations to solicit ideas

Criteria For Achieving Annual Performance Goal	Definition	Performance Measures *
		<ul style="list-style-type: none"> • Conduct joint annual conferences, periodic staff meetings, and videoconferences • Disseminate final reports and in-process work assignments on the NASA OIG Internet web page • Establish an internal Electronic bulletin board that publicizes staff updates, activity reports, and other employee related issues

* Each OIG program office and component established specific performance measures applicable to their respective discipline.

Resources Needed to Accomplish Annual Goals

For FY 1999, the NASA OIG has requested a budget of \$20 million, which will be used to support:

- A total of 210 full time (FTE) positions within the Offices of Auditing; Investigations; Inspections, Administrative Investigations, and Assessments; Partnerships and Alliances; Legal Services and Resource Management Division; and
- Associated travel and operational costs.

The FY 1999 budget request will allow us to adequately promote efficient and effective NASA operations and activities.

Our budget request of \$20 million directly supports the NASA OIG Strategic Goals and Objectives for our FY 1999 performance period. The budget request is necessary to support:

\$19.4 million (97 percent) in the staff salaries and benefits needed to effectively achieve Strategic Goal 1 and assure accomplishment of Strategic Goal 2

\$0.6 million (3 percent) in operations and maintenance costs to achieve Strategic Goal 3

Distribution of FY 1999 Resources to Achieve Established Goals

Strategic Goal	Resources
1 Provide cost-effective value-added products and services and 2 Maintain a skilled, diverse workforce*	\$19.4 million
3 Maintain a positive, challenging, and rewarding work environment	\$ 0.6 million
Total	\$20.0 million

*The Government Auditing Standards require OIG auditors to complete 80 hours of Continuing Professional Education every 2 years. A memorandum of understanding with the Department of Justice requires OIG special agents to maintain a level of physical fitness training, weapons proficiency, and currency in legal practices and investigative techniques. OIG attorneys require Continuing Legal Education to retain professional licenses.

Program Evaluation

We will conduct periodic evaluations to assess our progress toward meeting our annual performance goals. In conjunction with our individualized manual tracking systems, the Resources Management Division maintains the NIS, the IBM System 36, and microcomputer database programs that effectively track the data used to evaluate and report the majority of performance goals.

The Resources Management Division is enhancing the NIS system to provide program managers with a more comprehensive capability to track the data related to our annual goals and performance measures. Nonetheless, we will institute easily managed manual systems to capture performance data not readily adapted to automated programming.

Each program office will provide written status reports to the Inspector General. they will submit an interim report on July 15, 1999, detailing their progress toward accomplishing the annual performance goals. They will submit a report on October 31, 1999, detailing their achievement of FY 1999 annual performance goals that will serve as input toward the overall OIG Annual Performance Report to Congress.

Verification and Validation

We will use internal review and assessment teams to evaluate our performance for the FY 1999 annual performance period. As our measurement system matures, we will identify external processes that we can use to verify and validate our performance.

Appendix

The OIG values the comments and recommendations of our stakeholders, customers, partners, employees, and the contractor community. Should you have questions about the OIG and its mission, or you want further information regarding this Performance Plan or our Strategic Implementation Plan, please contact the following individuals:

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The OIG performance plan is also available on the World Wide Web at: <http://www.hq.nasa.gov/office/oig/hq/>