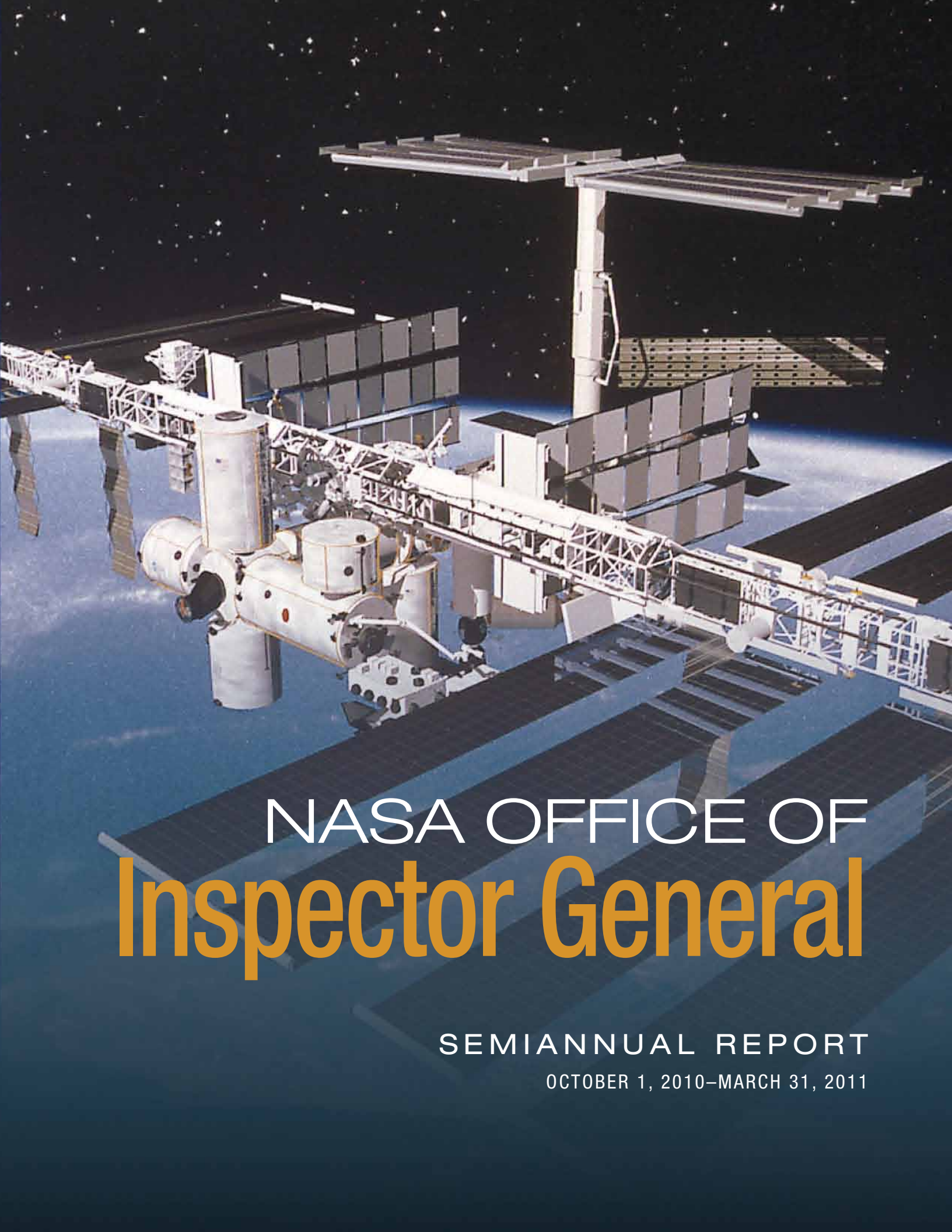

NASA OFFICE OF Inspector General

SEMIANNUAL REPORT

OCTOBER 1, 2010–MARCH 31, 2011

FROM THE INSPECTOR GENERAL

In January 2011, the NASA Office of Inspector General (OIG) took the unusual step of sending a letter to the Chairs and Ranking Members of NASA's congressional oversight and appropriations committees highlighting a situation created by "holdover" language in NASA's fiscal year (FY) 2010 appropriation. The language prohibited NASA from terminating contracts related to the Agency's canceled Constellation Program or starting programs to implement the follow-on human space exploration program called for in the 2010 NASA Authorization Act. The OIG urged Congress to take immediate action to enable NASA to more efficiently redirect its funds to the priorities outlined in the Authorization Act. While not a traditional audit or investigative report, the letter seeks to fulfill the Inspector General Act's directive that OIGs should make recommendations to Congress concerning the impact of legislation on the "economy and efficiency" of their agencies.

During this reporting period, the OIG issued its annual report on the top management and performance challenges facing NASA. In deciding whether to identify an issue as a top challenge, we considered its significance in relation to the Agency's mission; its susceptibility to fraud, waste, and abuse; whether the underlying problems are systemic; and the Agency's progress in addressing the issue. For 2010, the OIG identified the following top challenges:

- Future of U.S. Space Flight
- Acquisition and Project Management
- Infrastructure and Facilities Management
- Human Capital
- Information Technology Security
- Financial Management

Our audits and investigations over the last 6 months reflect these priorities. For example, we issued reports that assess NASA's plans for acquiring commercial launch services and its efforts to protect its Agency-wide mission computer network from Internet-based attacks. In addition, we began an audit that will examine management practices at NASA that contribute to cost overruns, schedule delays, and performance shortfalls in Agency projects.

On the investigative front, we continue to handle a wide variety of criminal and administrative cases involving fraud, theft, counterfeit parts, ethical violations, and computer intrusions. In December 2010, we issued a public report summarizing the results of our investigation into allegations of misconduct involving a $1.26 billion NASA space communications contract. More recently, we obtained felony convictions of a former University of Florida professor and his wife on multiple charges of fraud involving $3 million in NASA and Air Force contracts awarded under the Small Business Innovative Research Program.

The goal of all of our work at the OIG is to provide the Agency, Congress, and the public with independent and aggressive oversight to ensure that NASA uses its resources to achieve its important mission in the most economical and efficient manner possible.

This Semiannual Report summarizes the OIG's accomplishments from October 1, 2010, to March 31, 2011. We hope that you find it informative.

Paul K. Martin
Inspector General
April 29, 2011

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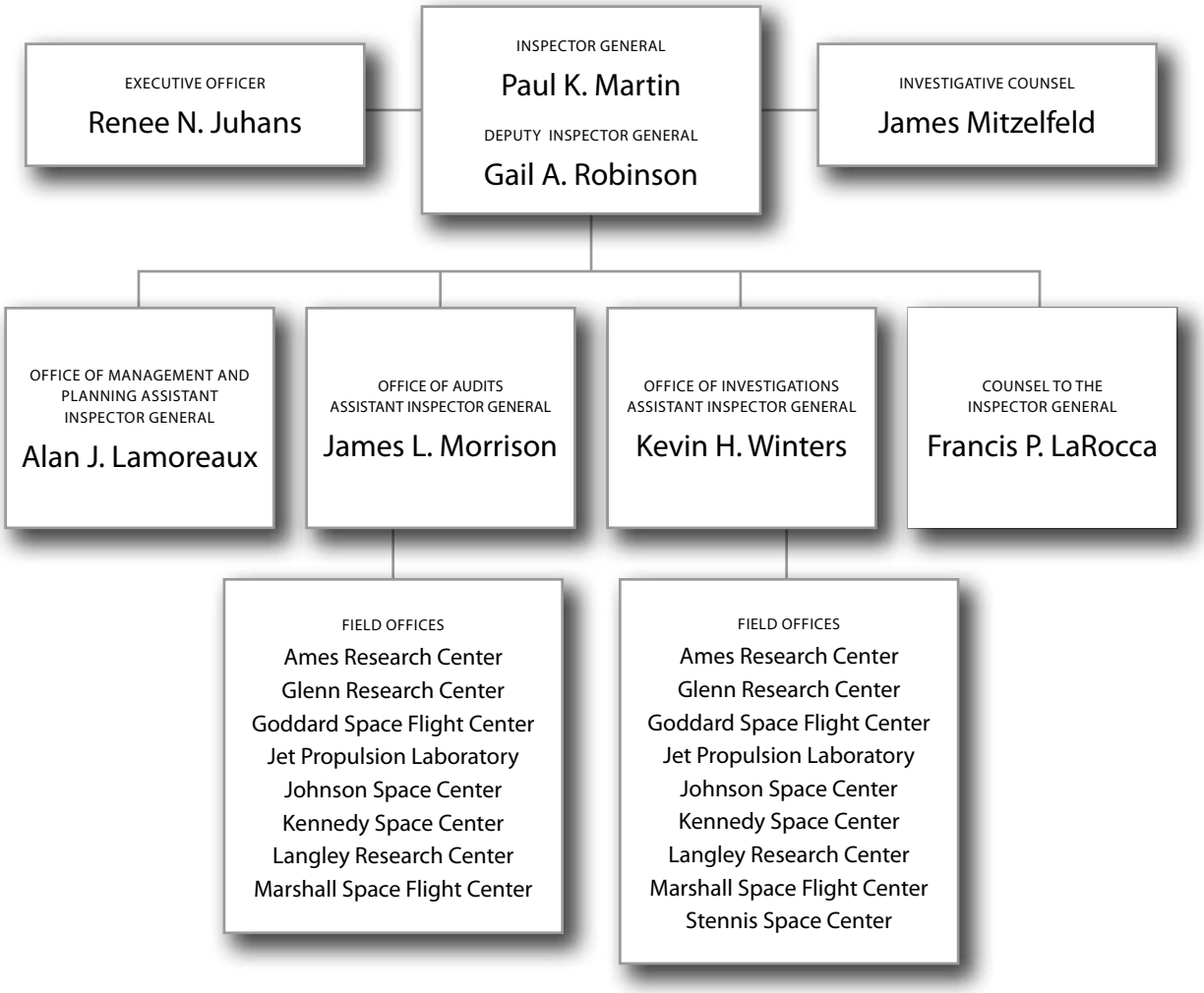
ORGANIZATION



The NASA Office of Inspector General (OIG) conducts audits, reviews, and investigations of NASA programs and operations to prevent and detect fraud, waste, abuse, and mismanagement and to assist NASA management in promoting economy, efficiency, and effectiveness. The OIG's budget (limited to an annual rate of $36.4 million under continuing resolutions) supports the work of 207 employees in their audit, investigative, and administrative activities.

The Inspector General (IG) provides policy direction and leadership for the NASA OIG and serves as an independent voice to the Administrator and Congress by identifying opportunities and promoting solutions for improving the Agency's performance. The Deputy Inspector General provides supervision to the Assistant Inspectors General and Counsel to the IG in the development and implementation of the OIG's diverse audit, investigative, legal, and support operations. The Executive Officer serves as the OIG liaison to Congress and other Government entities, conducts OIG outreach both within and outside of NASA, and manages special projects. The Investigative Counsel serves as a senior advisor for OIG investigative activities and special reviews of NASA programs and personnel.

The Office of Management and Planning (OMP) provides financial, procurement, human resources, administrative, and information technology (IT) support to OIG staff.

The Office of Audits (OA) conducts independent and objective audits and reviews of NASA programs, projects, operations, and contractor activities. In addition, OA oversees the work of the independent public accounting firm under contract by the OIG to conduct the annual audit of NASA's financial statements.

The Office of Investigations (OI) investigates allegations of cybercrime, fraud, waste, abuse, and misconduct that may affect NASA programs, projects, operations, and resources. OI refers its findings either to the Department of Justice (DOJ) for criminal prosecution and civil litigation or to NASA management for administrative action. Through its investigations, OI develops recommendations for NASA management to reduce NASA's vulnerability to criminal activity.

The Office of Counsel to the Inspector General provides legal advice and assistance to OIG managers, auditors, and investigators. The Office serves as OIG counsel in administrative litigation and assists the DOJ when the OIG participates as part of the prosecution team or when the OIG is a witness or defendant.

OIG PRODUCTS

Letter to Congress on Constellation Spending

The Inspector General Act directs Federal Inspectors General to "review existing and proposed legislation . . . relating to [the] programs and operations" of their agencies and make recommendations "concerning the impact of such legislation on . . . [the] economy and efficiency" of their agencies. In addition, Inspectors General are required to keep Congress informed about "serious problems, abuses, and deficiencies relating to the administration of [the] programs and operations [of their agencies]" and recommend corrective action.

In January 2011, the NASA OIG sent a letter to the Chairs and Ranking Members of the Agency's oversight and appropriations committees urging congressional action to address a situation created by "holdover" language in NASA's FY 2010 appropriation. This language prohibited NASA from terminating contracts related to the Agency's canceled Constellation Program or starting programs to implement the follow-on human space exploration program called for in the 2010 NASA Authorization Act.

The Authorization Act directs NASA to develop a new heavy-lift rocket and multi-purpose crew vehicle to replace the rockets and capsule being built as part of Constellation. However, for the first 6 months of FY 2011, NASA and the rest of the Federal Government operated under a continuing resolution that funded the Agency at the FY 2010 level and perpetuated the language in the 2010 appropriations law prohibiting the Agency from canceling Constellation contracts. As a result, NASA was in the difficult position of having to fund elements of a program that had been canceled and abiding by restrictions that prohibited it from establishing new programs to fully implement the directives of the 2010 Authorization Act.

The OIG's letter noted that NASA had taken steps to concentrate spending on those aspects of the Constellation Program it believed may have future applicability. Nevertheless, absent congressional intervention, Agency officials estimated that by the end of FY 2011 NASA anticipated spending more than $575 million on contracts and projects associated with the Constellation Program that, absent the restrictive appropriations language, it would have considered canceling or significantly scaling back. Moreover, as NASA makes final decisions regarding how best to move forward in designing and building the next generation space system, it will become increasingly difficult for the Agency to continue to juggle the inconsistent mandates of the Authorization Act and the appropriations legislation so as to avoid wasting taxpayer funds.

Accordingly, the OIG urged Congress to take immediate action that will enable NASA to reduce or cease funding aspects of the Constellation Program in order to more efficiently redirect these funds to the priorities outlined in the Authorization Act.

The full text of the OIG's letter can be found at http://oig.nasa.gov/readingRoom/Rock.pdf.

AUDITS AND INVESTIGATIONS

Acquisition and Project Management

Effective contract and project management – skills critical to NASA's ability to achieve its overall mission – have been long-standing challenges for the Agency. The OIG has focused attention on these areas in its audit work to help ensure that NASA is effectively managing its resources by practicing sound acquisition management techniques that provide NASA and the taxpayer with the best value. In addition, OIG investigators continue to examine allegations of fraud and other misconduct related to NASA contracts.

Allegations of Misconduct in Award of $1.26 Billion Space Communications Contract

On December 9, 2010, the OIG released a summary of its investigation relating to NASA's award of a $1.26 billion contract to ITT Corporation for NASA's space communications network services (SCNS). Honeywell Technology Solutions, Inc., which was competing with ITT for the contract, alleged that a former NASA official violated the Procurement Integrity Act and conflict of interest laws by assisting ITT with its bid. In addition, Honeywell alleged that two ITT employees who supported NASA's previous space communications services contract violated Federal laws and contracting regulations related to organizational conflicts of interest.

For many years preceding the award to ITT, NASA had contracted with Honeywell for related, although not identical, space and near Earth network communications services. The most recent contract – known as the Near Earth Network Services or NENS contract – was awarded to Honeywell in 2003. Under NENS, Honeywell was responsible for operating NASA's Space Network consisting of a fleet of tracking data relay satellites in orbit around Earth and associated ground network sites. While there were differences between the two contracts, NASA officials described SCNS as the successor contract to NENS.

Honeywell and ITT were the two final bidders for the SCNS contract. Until August 2008, ITT held the Mission Services Program contract with NASA and provided systems engineering and support to the Exploration and Space Communications Projects Division at Goddard Space Flight Center. Under this contract, ITT worked on the Space Network with NASA, Honeywell, and other contractor personnel on projects performed under the NENS contract. As a result, a limited number of ITT personnel had access to a Honeywell database and other Honeywell documents related to Honeywell's work on the NENS contract.

In October 2008, NASA awarded the SCNS contract to ITT. Honeywell contested NASA's decision and sought relief through various forums, including the OIG and the Government Accountability Office. Honeywell alleged that NASA's former Deputy

Associate Administrator for Space Communications and Navigation was prohibited from assisting ITT with its SCNS bid proposal due to his former NASA employment and that by assisting ITT he may have violated the Procurement Integrity Act and Federal ethics provisions relating to post-Government employment. Honeywell also alleged that the SCNS award was tainted by an organizational conflict of interest as that term is defined in the Federal Acquisition Regulation (FAR). Specifically, Honeywell asserted that ITT gained an unfair advantage in the procurement process because ITT employees exercised oversight of Honeywell's performance on the NENS contract and had access to confidential Honeywell information.

During the course of our investigation, a team of OIG agents, lawyers, and forensic technicians conducted 67 interviews and examined more than 100,000 pages of documents and e-mails obtained from NASA, Honeywell, ITT, and other parties.

We found insufficient evidence to sustain Honeywell's allegations. Specifically, we found no credible evidence that the former NASA official violated Federal laws relating to procurement practices or restrictions on his post-Government employment. Nor did we uncover evidence that ITT personnel engaged in any criminal misconduct during the procurement or used Honeywell's proprietary information in preparing ITT's bid for the SCNS contract. Finally, with regard to its claim that ITT suffered from an organizational conflict of interest, we found that ITT employees did not evaluate Honeywell's work on the NENS contract or help to create the requirements, specifications, or statements of work related to the SCNS contract. We also found that although several ITT employees had access to a Honeywell database and other documents containing information that Honeywell considered proprietary, it was not clear whether or how often these employees actually accessed this data or that any information they may have accessed was truly proprietary in nature.

Investigation of Alleged Misconduct during NASA's Procurement of Space Communications Network Services
http://oig.nasa.gov/investigations/SCNS_final_report.pdf

Review of NASA's Acquisition of Commercial Launch Services

NASA's Launch Services Program Office acquires commercial launch services under an overarching NASA Launch Services (NLS) contract first awarded in June 2000. That contract expired on June 30, 2010, but was extended to June 2020 as NLS II. In this audit, the OIG examined whether NASA acquired expendable launch vehicles or ELVs (unpiloted, single-use vehicles) within costs and timeframes established by these contracts. We also evaluated whether NASA's acquisition strategy for post-2010 ELV procurements is cost-effective and the most advantageous to the Government.

We found that NASA's Launch Services Program acquired ELVs that were within costs and timeframes established by the NLS contracts. However, we found that NASA's published strategy for acquiring medium-class launch vehicles after 2010 may not be the most cost-effective because it did not include as an option using Minotaur for its

medium-class launch requirements. Our analysis shows that use of the Minotaur for some NASA science missions may offer significant savings when compared to commercially provided launch vehicles currently available. For example, if NASA used the Minotaur rather than a commercially provided launch vehicle for the Soil Moisture Active Passive (SMAP) mission scheduled for launch in November 2014, the Agency could save between $61 million and $156 million.

The Commercial Space Act of 1998 (Public Law 105-303) requires NASA and other Federal agencies to procure space transportation services from U.S. commercial providers to the maximum extent practicable. Although the Minotaur is obtained through a U.S. commercial provider, it is not considered a commercially provided launch vehicle because it uses a U.S. Government-provided rocket motor from decommissioned intercontinental ballistic missiles. However, the Act permits use of a Minotaur, provided the NASA Administrator obtains approval from the Secretary of Defense and certifies to Congress that its use would result in cost savings to the Federal Government, meet all mission requirements, and be consistent with international obligations of the United States.

We recommended that the Assistant Associate Administrator for Launch Services and the Associate Administrator for Science consider the Minotaur when they evaluate whether a cost-effective and mission-suitable commercial launch vehicle would be available for the SMAP mission. We also recommended the Assistant Associate Administrator and the Associate Administrator conduct a similar evaluation for future medium-class science missions.

The Associate Administrators for Science and Space Operations concurred with our recommendation, stating that the intent of the recommendation reflects current NASA processes. Although the Associate Administrators expressed concern that using the Minotaur for these missions could adversely affect the commercial space transportation industry, they stated that they will continue to consider Minotaur as a launch services option "consistent with law and policy."

Review of NASA's Acquisition of Commercial Launch Services (IG-11-012, February 17, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-012.pdf

Management of NASA's Small Business Innovation Research Program

Of the 11 agencies that participate in the Small Business Innovation Research (SBIR) Program, NASA has the third largest program, awarding an average of $112 million annually to small businesses from 2004 through 2008. Investigations over the years by the OIG's Office of Investigations identified cases of fraud, waste, and abuse in NASA's SBIR Program that raised questions about the overall effectiveness of the Program's internal controls. Accordingly, we initiated an audit to examine whether NASA had (1) established internal controls to ensure evaluations of SBIR technical proposals were merit-based and objective, (2) performed adequate due diligence to identify unallowable

and unsupported costs, (3) established adequate criteria and procedures for selecting SBIR awards based on best value, and (4) established internal controls adequate to prevent and detect fraud and abuse in the SBIR Program.

We statistically selected 67 SBIR technical proposals submitted to and contracts awarded by NASA for program year 2008 and found that while NASA's internal controls for choosing SBIR award recipients were merit-based and objective, its oversight and monitoring of awards was deficient. Specifically, SBIR awards in 2008 contained an estimated $2.7 million in unallowable and unsupportable costs, including travel and equipment expenses. We found that NASA awarded SBIR contracts with unallowable and unsupported costs primarily because contracting officers and technical evaluators did not perform adequate due diligence in reviewing applicants' proposed costs. If NASA took the corrective actions outlined in our report, we estimated the Agency could put $13.3 million in SBIR funds to better use during program years 2010 through 2014.

We also found that NASA officials lacked adequate procedures to ensure that they considered SBIR applicants' past performance when selecting recipients of approximately $85.7 million in SBIR funds. While the FAR requires agencies to use past performance information in awards of more than $100,000, and Phase 2 SBIR awards have a maximum value of $750,000, NASA policies and procedures do not require that past performance information be considered in proposal evaluations and award selections.

Finally, NASA had not implemented appropriate internal controls to prevent fraud and abuse in contract awards. During our review, we identified 24 internal controls that could help NASA prevent and detect SBIR fraud and abuse. However, NASA's SBIR Program managers had not established 14 of the 24 controls (58 percent), including 9 of 19 controls we identified as critical in preventing and detecting fraud. Consequently, the SBIR Program remained vulnerable to abuse such as duplicate awards and duplicate deliverables.

We recommended that NASA (1) provide its technical evaluators with additional training to ensure that they know how to perform a preliminary assessment of cost allowability during the selection and evaluation stage, (2) improve the cost review procedures used during the contract award stage to ensure that contracting officers take appropriate action when unallowable or unsupported costs are identified, (3) develop policies and procedures for using past performance information in the selection of Phase 2 SBIR awards, and (4) implement critical internal controls not currently used and assess implementation costs and benefits for other controls. We also recommended that NASA contact the Small Business Administration (SBA) and the General Services Administration (GSA) to discuss implementing automated controls in databases operated by those agencies to enhance cross-agency fraud detection.

In its response, NASA agreed to develop a training module for technical evaluators; revise templates, checklists, and file documentation to ensure costs are appropriately analyzed, supported, dispositioned, and documented; and provide all employees assigned to the SBIR

Program with additional training on the analysis of direct and indirect costs. NASA also modified its 2010 SBIR solicitation to emphasize that past performance will be evaluated, made contracting officers responsible for collecting and reviewing past performance information, and required contracting officer's technical representatives to assess past performance upon completion of SBIR contracts. In addition, technical evaluators will be given access to past performance information. With respect to our recommendation to implement additional internal controls, NASA said it plans to implement or partially implement nine of the critical controls and evaluate one other control for implementation. In addition, NASA said it will meet with the SBA and GSA to discuss implementing the recommended controls that require coordination with those agencies.

We considered these planned actions to be responsive and our recommendations to be resolved.

Review of NASA's Management of Its Small Business Innovation Research Program (IG-11-010-R, January 12, 2011)
http://www.hq.nasa.gov/office/oig/hq/audits/reports/FY11/IG-11-010-R.pdf

Use of Recovery Act Funding for the James Webb Space Telescope

The American Recovery and Reinvestment Act of 2009 (Recovery Act) provided funding to the NASA OIG for oversight and audit of NASA's use of Recovery Act funding. Among other projects, we examined the $75 million in Recovery Act funds allocated to the James Webb Space Telescope (JWST) Project to assess NASA's compliance with Recovery Act mandates and adherence to Office of Management and Budget (OMB) guidelines.

We found that the JWST Project adequately addressed the requirements of the Recovery Act and related OMB guidance and delivered measureable outcomes consistent with Agency program and project plans and the goals of the Act. Specifically, we found that the funds enabled the JWST Project to retain 454 jobs in the fourth quarter of FY 2009 and 149 jobs in the first quarter of FY 2010. In addition, we identified 40 JWST tasks funded by the Recovery Act, of which 34 were completed on schedule. Significant progress was also made on the other 6 tasks, which were subsequently completed using non-Recovery Act funding.

Based on our review of the final performance reports from the involved contractors and discussions with NASA officials, we concluded that the performance results on the JWST Recovery Act activities fulfilled the intent of the Act and that delays associated with tasks not completed within the planned period of performance were appropriately justified.

NASA's Use of Recovery Act Funding for the James Webb Space Telescope Project (IG-11-014, March 3, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-014.pdf

NASA SBIR Contractors Found Guilty

On February 25, 2011, the 3-week trial of Samim and Sousan Anghaie, owners of a SBIR company, concluded with guilty verdicts against both defendants. Samim Anghaie, a former University of Florida professor, was convicted on 1 count of conspiracy to commit wire fraud, 28 counts of wire fraud, and 1 count of false statements. His wife was found guilty of 1 count of conspiracy and 26 counts of wire fraud.

The charges related to a scheme in which the defendants made representations to the Government that their company, New Era Technology, was a research firm with multiple employees when, in fact, the company was a sham. Working together, the couple submitted fraudulent contract proposals to obtain more than $3 million in SBIR contracts with NASA and the Air Force to provide the research services of scientists, engineers, and laboratory assistants working in a state-of-the-art analysis and data communication laboratory. In reality, the research and analysis the company provided were the products of graduate and doctoral students at the University of Florida, which the defendants took without the students' knowledge or consent.

The defendants also submitted fraudulent invoices seeking reimbursement for payments they claimed to have made to various employees and then kept the funds for themselves. In addition to depositing the fraudulently obtained Government funds in their own bank accounts, the defendants also deposited funds into bank accounts held by their sons, only to later transfer the money back into their own accounts.

Sentencing for the two defendants is scheduled for July 5, 2011, in the U.S. District Court, Northern District of Florida.

Former NASA Chief of Staff Sentenced

In November 2010, former NASA Chief of Staff Courtney A. Stadd was sentenced in U.S. District Court, Southern District of Mississippi, to 41 months' imprisonment and 3 years' probation, ordered to pay $287,000 in restitution, and fined $7,500. The sentencing followed Stadd's September 2010 guilty plea to a felony conspiracy charge for conspiring with Liam P. Sarsfield, former NASA Deputy Chief Engineer of Programs, to steer approximately $600,000 in NASA funds to one of Stadd's clients, Mississippi State University (MSU), which then used those funds to pay for a $450,000 subcontract with Stadd's consulting business. Stadd and Sarsfield agreed that Sarsfield would work on the subcontract after he left NASA. Stadd received over $287,000 on the subcontract through his consulting business and admitted to inflating hours billed and falsifying invoices to MSU. He further admitted to sending two false quarterly reports to MSU in August 2005. In furtherance of the conspiracy, he also requested that senior Government officials use their influence to stop the NASA OIG from investigating his activities. In addition, Stadd admitted that he created false documents in response to a Federal Grand Jury subpoena. Sarsfield, the former Deputy Chief Engineer, previously pleaded guilty and was sentenced in September 2010 to 3 years' probation, ordered to pay $87,753 in restitution, and fined $5,000.

Government Contractors Agree to Civil Settlement

Avaya, Inc., and CIT Group, Inc., agreed to pay the Government $16.5 million to settle allegations that they systematically overcharged the Government in connection with the lease and purchase of desktop telephone systems. Avaya, Inc., a telecommunications company based in Basking Ridge, New Jersey, provided desktop systems to hundreds of Federal and State Government agencies and offices, including NASA. During the mid-1990s through at least 2006, the company inappropriately charged and collected payments from the Government for telephone systems and equipment that did not function or was no longer on site. In addition, the company charged the Government for telephone systems and maintenance for these systems after they had been replaced or upgraded. CIT Group, Inc., a financial services company, agreed to pay over $3 million for continuing the scheme after it took over a portion of the telecommunications company's customer base. The NASA OIG participated in the investigation along with the General Services Administration and U.S. Postal Service OIGs.

Titanium Supplier Pleads Guilty to Defrauding Government

In February 2011, Western Titanium, Inc., a U.S. supplier of titanium metal, pleaded guilty to one count of mail fraud for falsely certifying that titanium it sold to U.S. Government prime contractors and subcontractors complied with military specifications. As part of the plea agreement, four management officials for the supplier entered into deferred prosecution agreements. Sentencing for Western Titanium is scheduled for April 2011 in the U.S. District Court, Southern District of California.

Ongoing Audit Work

Mars Science Laboratory

NASA's next major Mars mission is the Mars Science Laboratory (MSL), a mobile science laboratory intended to land on the surface of Mars to investigate whether Mars has, or ever had, an environment capable of supporting life. MSL originally was scheduled for launch in the fall of 2009, but technical problems delayed the launch to November 2011, thereby significantly increasing costs. According to NASA's FY 2011 budget request, the MSL mission has a life-cycle cost of $2.35 billion, of which $1.68 billion is for development. This represents a 56 percent increase in life-cycle cost and an 86 percent increase in development costs from the FY 2007 budget request. Our audit is examining NASA's overall management of the MSL Project.

National Polar-orbiting Operational Environmental Satellite System Preparatory Project

The National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project is a joint mission between NASA and the NPOESS Integrated Program Office. The satellite will measure ozone, atmospheric and sea surface temperatures, land and ocean biological productivity, and cloud and aerosol properties. Our audit is examining whether NASA is effectively managing the NPOESS Preparatory Project to accomplish its technological objectives while meeting established milestones and controlling costs.

Performance Review of Recovery Act Activities under Cross-Agency Support Contracts

NASA allocated $50 million in Recovery Act funds to Johnson Space Center for the repair of buildings and facilities damaged in September 2008 by Hurricane Ike. Johnson used the funds to repair roofs and loggia on several dozen buildings; replace leaking windows; waterproof exterior building panels; repair street, parking lot, and sidewalk lights; reconstruct a hangar at Ellington Field; and refloat a barge dock on Clear Lake. To accomplish this work, Johnson awarded new Cross-Agency Support contracts and modified several existing contracts. Our review is assessing whether activities funded by the Recovery Act at Johnson met the contracts' cost, schedule, and performance milestones. We are also assessing compliance with guidance issued by OMB and NASA for the use of Recovery Act funds.

Recovery Act-Funded Contracts under NASA's Small Business Innovation Research Program and Small Business Technology Transfer Program

As of March 2011, more than $24 million in NASA Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) contract awards have been funded with Recovery Act money. This audit is assessing the effectiveness of NASA's internal controls for SBIR/STTR contracts funded by the Recovery Act and determining whether cost, schedule, and performance milestones were met.

NASA's Project Management Practices

NASA continues to have difficulty meeting cost, schedule, and performance objectives for many of its projects. The need to effectively manage its wide-ranging portfolio will only increase in importance as NASA operates in an increasingly constrained fiscal environment. Accordingly, the OIG is conducting an audit to identify management practices and challenges that contribute to cost overruns, schedule delays, and performance shortfalls.

Use of NASA Research Announcements within the Aeronautics Research Mission Directorate

To help meet its research goals, the Aeronautics Research Mission Directorate (ARMD) supplements research performed by civil service personnel with research performed by outside individuals. To award such research, NASA issues NASA Research Announcements (NRAs). Between 2007 and 2010, ARMD issued NRA awards valued at $382 million. Our audit will examine the effectiveness of aviation research funded by NRAs as well as NASA's use of Recovery Act funds for this research.

NASA's Implementation of Lessons Learned

Lessons learned are brief summaries of failures or successes that may help other NASA programs or projects avoid the repetition of mistakes or replicate positive achievements. A 2001 Government Accountability Office survey of all NASA program and project managers revealed fundamental weaknesses in the collection and sharing of lessons learned Agency-wide. Our audit will review the Agency's Lessons Learned Information System and examine whether management uses the System throughout the life cycle of programs and projects.

NASA's Technology Transfer Program

Federal law requires that NASA and other Federal agencies make every effort to ensure the commercialization of federally owned or originated technology. This audit will assess the adequacy of NASA's planning for and execution of technology transfers to State and local governments and to the commercial sector.

Information Technology

During this semiannual reporting period, we continued to work with NASA to improve Agency IT security and management controls on its critical IT systems.

Disposition of IT Equipment Used in the Space Shuttle Program

As part of a larger audit examining NASA's controls over the disposition of various types of Space Shuttle Program property (IG-11-016), we examined NASA's internal controls for the sanitization and disposal processes for IT equipment at Kennedy and Johnson Space Centers and Ames and Langley Research Centers. Our audit uncovered significant weaknesses that resulted in excess computers and hard drives being sold or prepared for sale even though they still contained sensitive NASA data.

IT Equipment Confiscated by OIG Personnel from Kennedy's Property Disposal Facility

Source: OIG photograph (June 11, 2010).

Among the audit's findings:

- Officials at Kennedy released to the public 10 computers that had failed sanitization testing and therefore may have contained sensitive NASA data. OIG auditors confiscated four other computers at Kennedy that had failed testing but were nevertheless being prepared for sale and found that one of these computers contained data subject to export control laws.
- Hard drives removed from excess computers at Kennedy were being stored in an unsecured dumpster accessible to the public (see full report for photos). We also found that while Langley was destroying hard drives before excess computers were released to the public, personnel at that Center did not properly account for or track the removed hard drives during the destruction process.

- Several pallets of computers at Kennedy's property disposal facility that were being prepared for sale contained external markings that included NASA Internet Protocol addresses. Release of Internet Protocol information could lead to unauthorized access to NASA's internal computer network.

Computer Marked with Internet Protocol Address

Source: OIG photograph (April 14, 2010).

We also found that Kennedy managers were not notified when computers failed sanitization verification testing; that no verification testing was being performed at Johnson or Ames; and that Kennedy, Johnson, and Ames were using unapproved sanitization software.

The problems we identified placed NASA at risk of releasing sensitive information, including information subject to export control by the International Traffic in Arms Regulations, or releasing information that could provide a hacker with the means to target NASA networks.

Given the importance of the issues we found at Kennedy, the OIG immediately brought its findings to the attention of managers there, who took action to address the issues we identified. However, because we also found weaknesses in the sanitization and disposition processes for IT equipment at the three other Centers we visited, we recommended that NASA's Chief Information Officer (CIO) initiate a review of sanitization procedures at NASA Centers nationwide to identify deficiencies, take corrective actions, and share best practices. Specifically, we recommended that the CIO coordinate with NASA's Assistant Administrator for Strategic Infrastructure to ensure that Center property disposal officers have the requisite knowledge to ensure that excess IT equipment is adequately sanitized before being released to the public and revise NASA's IT disposition policy to include a sampling methodology for verifying sanitization of equipment, identify an acceptable risk level, and specify the percentage

of equipment and frequency of testing needed to achieve that risk level. In addition, we recommended that the Centers document their sampling methodology, identify responsible officials in writing, and maintain testing records and results.

In response to our recommendations, the CIO initially stated that NASA's policies would be updated and a new IT security handbook created by the third quarter of FY 2011. We did not consider the CIO's initial proposed actions responsive to our recommendations. Subsequently, however, the CIO submitted a follow-up response in which she proposed to meet with all Center CIOs to identify deficiencies and best practices, coordinate with the Assistant Administrator for Strategic Infrastructure to discuss collaboration between IT security managers and Center property disposal officers to ensure proper sanitization of IT equipment prior to public release, and establish a "Tiger Team" to review best practice guidance and implement new disposition procedures, to include a sampling methodology. We found this second response responsive to our recommendations.

Preparing for the Space Shuttle Program's Retirement: A Review of NASA's Procedures for the Disposition of Information Technology Equipment (IG-11-009, December 7, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-009.pdf

Inadequate Security Practices Expose Key NASA Network to Cyber Attack

The OIG evaluated how well NASA is protecting its Agency-wide mission computer network from Internet-based attacks. We performed this audit because NASA has experienced cyber intrusions that have resulted in the theft of export-controlled and other sensitive data from its mission computer networks.

We found that six computer servers associated with IT assets that control NASA spacecraft and contain critical data had vulnerabilities that would allow a remote attacker to take control of or render them unavailable. Moreover, once inside the Agency-wide mission network, the attacker could use the compromised computers to exploit other weaknesses we identified, a situation that could severely degrade or cripple NASA operations. We also found network servers that revealed encryption keys, encrypted passwords, and user account information to potential attackers.

We recommended that NASA (1) immediately identify Internet-accessible computers on its mission networks and take prompt action to mitigate identified risks and (2) continuously monitor Agency mission networks for Internet-accessible computers and take prompt action to mitigate identified risks. Finally, to help ensure that all threats and vulnerabilities to NASA's IT assets are identified and promptly addressed, we recommended that NASA conduct an Agency-wide IT security risk assessment. The Agency concurred with our findings and recommendations.

Inadequate Security Practices Expose Key NASA Network to Cyber Attack (IG-11-017, March 28, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-017.pdf

NASA's Compliance with the Federal Information Security Management Act

This annual report, submitted as a memorandum from the Inspector General to the NASA Administrator, provides OMB with our independent assessment of NASA's IT security posture. For FY 2010, we adopted a risk-based approach in which we selected high- and moderate-impact non-national security Agency systems for review. We examined 40 systems that included systems from all 10 NASA Centers, NASA Headquarters, and the NASA Shared Services Center.

Although our audit work identified challenges to and weaknesses in NASA's IT security program, we believe that the Agency is steadily working to improve its overall IT security posture.

Our report to OMB noted that NASA established a program for certification and accreditation, security configuration management, incident response and reporting, security training, plans of actions and milestones, remote access, account and identity management, continuous monitoring, business continuity/disaster recovery, and overseeing systems operated by contractors. However, we found that internal controls for these areas needed improvement.

Federal Information Security Management Act: Fiscal Year 2010 Report from the Office of Inspector General (IG-11-005, November 10, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-005-summary.pdf

Texas Man Pleads Guilty to Hacking

In February 2011, a Texas man pleaded guilty to one count of wire fraud in U.S. District Court, District of Minnesota, for hacking a local company's computer network. As part of his plea, he also admitted to hacking into two NASA computer servers at Goddard Space Flight Center. NASA spent approximately $43,000 to repair the damage caused by the hacking. During the repair, more than 3,000 users were denied access to oceanographic data supplied by NASA.

Former NASA Contractor Employee Sentenced for Possession of Child Pornography

In February 2011, after pleading guilty to one count of possession of child pornography, a former NASA contractor employee who had worked at Goddard Space Flight Center was sentenced to 3 months' imprisonment and 10 years' supervised release with mandatory registration as a sexual offender. The former contractor employee was also ordered to pay a $7,500 fine. The sentencing took place after a NASA OIG investigation determined that the former contractor had used his NASA-issued computer to access and download child pornography.

Chinese Ministry of Public Service Detains Chinese Citizen

As a result of an OIG investigation, a Chinese national was detained by the Chinese Ministry of Public Service for violations of Chinese Administrative Law. Our investigation into several compromised NASA computer systems revealed that the Chinese national had infiltrated the systems through a Government contractor's website. When NASA employees visited the site, they were redirected to a Taiwanese server. The investigation found that seven NASA systems had been compromised, leaving a significant amount of data vulnerable to unauthorized access and theft.

British Citizen Sentenced for Role in Spam E-mail Scheme

In February 2011, a British citizen was sentenced in Southwark Crown Court, London, to 18 months' imprisonment for his role in the distribution of malware that caused NASA data to be compromised. The OIG assisted the prosecution by providing information related to the compromised NASA e-mail accounts.

Actions Taken Against Swedish National

From December 2003 to February 2005, a Swedish hacker compromised six NASA networks and NASA suffered $1 million in supercomputing "downtime" as a result of this activity. To calculate the cost, NASA took into account the amount of time that the systems were down as well as the resources needed to repair the damages caused by the intrusions. The case originally was accepted by the U.S. Department of Justice but later presented to Swedish authorities. The Swedish court determined that the hacker was at fault for a variety of offenses, and as a result a formal criminal history record for him will be maintained in international law enforcement databases. Because the hacker was a minor at the time of the intrusion activity, no further action was taken against him by Swedish authorities.

Former NASA Contractor Employee Sentenced for Misuse of NASA Computer

In December 2010, a former NASA contractor employee who had worked at Marshall Space Flight Center entered a guilty plea for violating a NASA security regulation involving misuse of a NASA computer. The former contractor employee was sentenced to 1 year of probation and ordered to pay a $1,000 fine.

Ongoing Audit Work

NASA's Agency-Wide Computer Incident Detection and Response Capability

In FYs 2007 and 2008, NASA reported 1,120 cybersecurity incidents that included the installation of malicious software on its systems and unauthorized access to sensitive information. To address these incidents, NASA established a Security Operations Center (SOC) in November 2008. This audit will examine whether the SOC is effectively providing incident detection, response, and reporting in the event of cyber attacks against NASA networks and computer systems.

Configuration Management and Continuous Monitoring Practices

A common threat to NASA's IT systems and data occurs when vulnerabilities exist or are introduced to system components and NASA's monitoring and mitigation techniques do not identify and address them in a timely fashion. Strong IT security practices for configuration management and continuous monitoring can minimize the number and severity of vulnerabilities on NASA's systems. The objective of this audit is to evaluate the effectiveness of controls used to identify high-impact vulnerabilities and ensure components are configured properly on critical NASA IT systems.

NASA's Compliance with FISMA and Agency Privacy Management Requirements for FY 2011

NASA IT systems house sensitive information which, if released or stolen, could result in significant financial loss or adversely affect national security. This audit will assess NASA's compliance with Federal Information Security Management Act (FISMA) and Agency Privacy Management requirements for FY 2011. FISMA requires the OIG to conduct annual evaluations of NASA's information security program and report the results to OMB.

Space Operations and Exploration

Space operations and exploration is one of NASA's most highly visible missions. During this reporting period, the OIG continued to examine a variety of issues in this area.

NASA's Controls over Public Sales of Space Shuttle Property

The Space Shuttle Program – whose first mission was flown in 1981 and whose last is scheduled for later this year – employs about 14,600 civil service and contractor personnel, occupies over 654 facilities, and includes more than 1.2 million line items of personal property. NASA has been planning for the retirement of the Space Shuttle Program since 2004, and the scope of work involved is one of the largest such efforts ever undertaken by the Agency. Much of the Shuttle property will be donated to museums, schools, and other parties; transferred to other Federal agencies; or sold to the public through GSA.

To manage the disposal of this unprecedented amount of personal property, in November 2008, NASA submitted to Congress a "Space Shuttle Program Transition and Retirement Personal Property Disposition Plan." The Plan states that in disposing of Space Shuttle property NASA will follow all laws and regulations, including the Department of State's International Traffic in Arms Regulations (ITAR) and the Department of Commerce's Export Administration Regulations (EAR), which are intended to prevent unauthorized export of controlled technology. Although NASA does not know with certainty how much Space Shuttle personal property is export controlled, in December 2009, the Space Shuttle Main Engine Project – just one of the many projects under the Space Shuttle Program – completed an assessment that found 93 percent of its personal property is export controlled (117,380 out of 125,981 line items). Accordingly, NASA should expect that a significant amount of Shuttle-related property will be subject to export control laws.

Our audit reviewed NASA's controls over the disposition of Space Shuttle Program property. In particular, we focused on the vulnerabilities created when Space Shuttle property is sold to the public. During the audit, we found significant weaknesses in NASA's sanitization and disposal processes for Shuttle-related IT equipment and in December 2010 released a separate report on that issue (IG-11-009, summarized on page 17 of this Semiannual Report).

As part of our broader audit of the disposition of all Shuttle-related property, we also reviewed the management of funds received from the sale of Space Shuttle Program property. Because a significant amount of Space Shuttle property is located at and will be disposed of by personnel from the Kennedy and Johnson Space Centers, we conducted most of our work at these two Centers.

We found that NASA had not fully integrated its export control and property disposition processes to reduce the risk that public sales of Space Shuttle property could result in the prohibited release of export-controlled items and technology. Moreover, property disposal managers did not fully recognize how the domestic sale of Space Shuttle property could result in an export, and NASA's policies did not include the internal controls necessary to fully protect export-controlled property from unauthorized release.

As a result of our audit, NASA has already begun working with GSA to improve controls over public sales of Space Shuttle property, which should help prevent unauthorized releases.

In addition, we found that NASA had not effectively managed proceeds collected from the sale of Space Shuttle Program property, resulting in a forfeiture of funds. NASA had collected over $185,000 in proceeds in FYs 2008 and 2009 but had to forfeit that money because it had not obligated the funds within the necessary timeframe or obtained a waiver to extend the timeframe. NASA received $273,095 from Space Shuttle property sold in FY 2010, and proceeds from such sales will only increase in the coming years. We noted that unless the Agency improves its management of these proceeds, it risks forfeiting them as well.

Our audit recommended that NASA revise its policy to clarify how property disposition activities, including NASA's domestic property sales coordinated through GSA, can result in a violation of export control laws. In addition, we recommended that the revision require coordination between property disposal and export control personnel to ensure that export determinations are made, buyer citizenship is verified, and buyer identities are compared with lists of individuals who have been denied export privileges by the Department of State or the Department of Commerce. We also recommended that Kennedy and Johnson revise their Center-specific policies to reflect the revisions to NASA policy.

Finally, we recommend that the Chief Financial Officer determine how much of the FY 2010 sales proceeds remain unobligated and proactively coordinate with the Exploration Systems Mission Directorate to make timely use of the funds.

NASA management generally concurred and proposed actions that met the intent of all but one of our recommendations. Although the Associate Administrator for International and Interagency Relations concurred with our recommendation to update NASA policy and to improve the annual Export Control Program audits, his proposed actions did not fully meet the recommendation's intent. Therefore, that recommendation remains unresolved.

Preparing for the Space Shuttle Program's Retirement: Review of NASA's Controls over Public Sales of Space Shuttle Property (IG-11-016, March 15, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-016.pdf

Former Contractor Employee Charged for Stealing Space Shuttle Tiles

A former NASA contractor employee was charged with third degree felony theft and trafficking in stolen property for thefts involving tiles from the Space Shuttle Program. The OIG investigation was initiated when an individual purchased a Space Shuttle tile on eBay and submitted a Freedom of Information Act request to NASA to determine the origin of the tile. OIG investigators subsequently traced the tile to a former NASA contractor employee at Kennedy Space Center. Working with the Brevard County Sherriff's Office, the OIG determined that the contractor employee had sold 12 stolen Shuttle tiles on eBay for prices ranging from $41 to $912.

Space Shuttle tiles sold on eBay and recovered by the OIG.

Training Requirements for Interim Response Teams

NASA has developed policies for reporting, investigating, and maintaining records in the event of a mishap or close call during a launch. As part of this policy, NASA has established Interim Response Teams to respond to such events until the official NASA-appointed investigating authority arrives at the scene. Interim Response Team members review launch data integrity and accountability, identify and collect witness statements, and coordinate mishap activities among NASA, the Air Force, and the involved contractors.

While conducting an audit of NASA's Launch Services Program (IG-11-012), the OIG received an allegation that personnel assigned to Interim Response Teams at Kennedy Space Center were not properly trained to investigate launch vehicle mishaps. Although launch emergencies and mishaps at Kennedy are rare, it is vital that Interim Response Team members be properly trained.

As part of our review, we examined the mishap plans promulgated by the Science Mission Directorate, the Exploration Systems Mission Directorate, Kennedy Space Center, and the Launch Services Program. We found that although these plans appropriately identified roles and responsibilities for managing contingency actions, NASA did not have uniform training requirements for Interim Response Team

members. Moreover, we found that the training requirements set forth in the Launch Services Program's mishap plan were inconsistent with the requirements developed by the other entities. We also determined that none of the 16 safety and mission assurance personnel assigned to Interim Response Teams at Kennedy during the launches of the Orbiting Carbon Observatory (OCO) and the Lunar Reconnaissance Orbiter/Lunar Crater Observation and Sensing Satellite (LRO/LCROSS) had completed all required training, and only 3 of the 16 had completed the required "Introduction to Mishap Investigations" training course. Consequently, we questioned whether the assigned personnel were sufficiently knowledgeable to effectively execute their assigned roles and responsibilities in the event of a mishap or close call.

We recommended that NASA's Chief of Safety and Mission Assurance develop minimum requirements for personnel assigned to Interim Response Teams and update the relevant NASA regulations to reflect these requirements. We also recommended that the Director of Kennedy's Safety and Mission Assurance Directorate develop procedures to ensure that personnel assigned to these teams complete the required training. NASA management generally concurred with our recommendations.

Final Memorandum Assessing Launch Services Program's Interim Response Team Training Requirements (IG-11-003, November 10, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-003.pdf

Ongoing Audit Work

Development and Implementation of NASA's Safety and Human-Rating Requirements for the Commercial Space Industry

After more than 30 years and 130 flights, NASA's Space Shuttle fleet will retire this year, leaving the United States dependent on the Russian Soyuz vehicle for crew transportation to and from the International Space Station (ISS) until the next generation of space vehicles is developed. To maintain U.S.-provided human spaceflight access to low Earth orbit and the ISS, NASA is stimulating the development of a commercial space industry capable of providing access to and from the ISS by October 2016. While NASA has 50 years of experience with contractor-built, Government-operated vehicles for human spaceflight, the Agency has never procured transportation for its astronauts aboard a commercially developed vehicle. Given the important shift in NASA's approach to acquiring crew transportation to low Earth orbit and the ISS, the OIG is examining the Agency's efforts to develop human-rating standards for commercial vehicles and evaluating the overarching challenges and risks associated with procuring commercial crew transportation services.

Audit of NASA's Management of the Advanced Radiation Instrumentation Project

Exposure to space radiation poses a hazard to NASA's astronauts. To address short- and long-term effects, NASA monitors both the ISS environment and each crewmember's radiation exposure. However, the current suite of radiation-monitoring instruments on board the ISS has exceeded its design life and does not completely meet NASA's requirements for monitoring and measuring radiation. As a result, the Advanced Radiation Instrumentation Project is building three replacement instruments. Our audit will evaluate management of the Project to determine whether technical, cost, and schedule requirements are being met.

Controls over Loans of Astromaterials

NASA's astromaterials samples, including lunar material returned from the Apollo missions, meteorites recovered from the Antarctic, and cosmic dust particles collected from the stratosphere, are a unique and limited national resource requiring careful allocation, coordination, and management control to ensure they are available for study by future generations. In accordance with the National Aeronautics and Space Act of 1958, which requires NASA to widely disseminate the results of the Agency's scientific activities, NASA makes a portion of these astromaterials available through loans for scientific study, public outreach, and educational activities. NASA coordinates the loans through its Astromaterials Acquisition and Curation Office and Exhibit Loan Program, both managed by Johnson Space Center, and each Center's Education Office. Our audit will assess NASA's controls over loans of these astromaterials samples.

Financial Management

Although financial management remains a significant management challenge for NASA, during this reporting period NASA received a qualified opinion after having received a disclaimer of opinion for the preceding 7 years. The OIG will continue to work with NASA and the independent external auditor during the coming year to address remaining weaknesses in NASA's financial management system.

NASA Receives Qualified Opinion on FY 2010 Financial Statements

The Chief Financial Officers Act of 1990 requires the IG or an independent external auditor selected by the IG to annually audit NASA's financial statements. After receiving disclaimers of opinion on its financial statements for the previous 7 years, NASA was able to develop sufficient financial evidence and documentation to allow auditors to issue a qualified opinion on the Agency's FY 2010 financial statements. The qualification was related to the valuation of property, plant, and equipment (PP&E) and materials in prior years and its possible effects on the current year statements of net cost and changes in net position. Over the past several years, NASA financial managers – working with the OIG and the independent accounting firm Ernst & Young LLP (EY) – have continued to make steady progress resolving previously identified weaknesses, and their efforts resulted in the 2010 qualified opinion. While the ultimate goal for the Agency is an unqualified opinion, the FY 2010 results are a significant accomplishment and position NASA well for the future.

During FY 2010, NASA continued to develop policies, procedures, and controls to address its internal control deficiencies. For example, NASA revised its policy and procedures for quantifying its environmental cleanup costs associated with decommissioning PP&E. Nevertheless, challenges remain. EY identified two significant deficiencies in financial reporting internal controls involving NASA's controls over PP&E records maintained by contractors and the process for estimating environmental remediation costs. While those areas can still be enhanced, the Agency has made significant progress addressing PP&E issues relating to the valuation and completeness of legacy assets. During the audit, EY identified no instances of significant noncompliance with applicable laws and regulations (IG-11-006, Enclosure 3). EY also qualified its opinion on NASA's special-purpose financial statements for the reasons noted above (IG-11-008).

EY also assessed the effectiveness of the IT control environment associated with NASA's Integrated Enterprise Management Program. EY's report included four findings, two of which had been resolved. NASA management partially concurred with EY's recommendations related to the two open findings and has since agreed to take correction actions that have resolved EY's recommendations (IG-11-007).

Audit of the National Aeronautics and Space Administration's Fiscal Year 2010 Financial Statements (IG-11-006, November 15, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-006.pdf

Final Report, "Information Technology Management Letter Comments," Prepared by Ernst & Young LLP in Connection with the Audit of NASA's Fiscal Year 2010 Financial Statements (IG-11-007-Redacted, November 16, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-007-R.pdf

Audit of the National Aeronautics and Space Administration's Fiscal Year 2010 Special-Purpose Financial Statements (IG-11-008, November 15, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-008.pdf

Ongoing Audit Work

Audit of NASA's FY 2011 Financial Statements

The OIG is overseeing NASA's FY 2011 consolidated financial statement audit, which will be performed by the independent public accounting firm PricewaterhouseCoopers.

Audit of NASA's Purchase and Travel Card Programs

Effective purchase and travel card programs depend on properly training users to manage card use, as well as agency-specific internal control procedures to protect against misuse. This audit will examine whether the NASA purchase and travel card programs are operating efficiently. The audit will also examine whether NASA is in compliance with Federal and Agency requirements as they relate to these programs.

Infrastructure and Facilities Management

Infrastructure and facilities management is a long-standing concern likely to remain a top Agency challenge for the foreseeable future. NASA's FY 2010 Authorization Act directs the Administrator to undertake a comprehensive study examining NASA's institutional assets, paying particular attention to identifying and removing unneeded or duplicative infrastructure. In light of the enormity of the challenge facing NASA in this area, the OIG created an audit directorate dedicated to this issue and has began a series of in-depth reviews examining facility utilization and the management of construction of facilities funding.

Review of NASA's Facilities Maintenance Program

We examined NASA's facilities maintenance procedures to evaluate the Agency's efforts to select and fund maintenance projects. We found that many of NASA's facilities are in degraded condition and that the Agency's maintenance backlog continues to grow each year. For example, NASA's deferred maintenance estimate for all of its facilities increased from $1.90 billion in FY 2005 to $2.55 billion in FY 2010. In addition, we found that NASA did not fully communicate maintenance requirements during the budgeting process; as a result, it is difficult for the Agency to make informed budgeting decisions about its facility maintenance needs. Continued deferral of necessary maintenance could result in unsafe working conditions. Moreover, the longer needed repairs are deferred, the higher their ultimate cost.

We issued a memorandum to NASA summarizing our concerns about the Agency's ability to identify and budget for maintenance and repair needs. NASA's ability to plan for and achieve a reduction in its maintenance backlog depends on having reliable facilities maintenance cost data. However, at the time of our fieldwork, NASA used multiple and inconsistent mechanisms for capturing costs associated with facilities maintenance work. Without accurate, complete, and consistent maintenance cost data, NASA is unable to evaluate the maintenance and operation cost of its facilities to make informed sustainment, repair, or replacement decisions.

In addition, NASA requires Centers to develop both an annual work plan and a 5-year plan to articulate their maintenance needs. However, we found that none of the Centers we visited had annual work plans that fully justified their budget requests or 5-year maintenance plans that provided data for budget forecasting. Without proper planning documents, NASA maintenance managers cannot effectively assess anticipated maintenance needs across the Agency.

Audit of NASA's Facilities Maintenance (IG-11-015, March 2, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-015.pdf

Ongoing Audit Work

Management of NASA's Real Property Assets

NASA manages approximately 5,400 buildings and other structures totaling more than 44 million square feet of diverse real property assets, including commercial office buildings, warehouses, testing laboratories, wind tunnels, launch pads, roads, and utilities located throughout the world. In total, this real property is valued at more than $23 billion. NASA's January 2008 "Real Property Asset Management Plan" indicates that approximately 10 to 50 percent of NASA's warehouses and 30 to 60 percent of its laboratories were underused. An important first step in dealing with the Agency's underused property is to ensure the accuracy of the data that NASA uses to manage its facilities. Up-to-date real property data is essential to supporting NASA managers' decisions to maintain, dispose of, or lease the Agency's excess assets. This audit is examining whether the facility data provided by NASA's Real Property Management System is accurate.

NASA's Planning and Budgeting for Construction Projects

Facility construction and revitalization are essential to maintaining infrastructure that is safe and capable of supporting NASA's varied missions. The Construction of Facilities Program identifies and funds construction of new facilities as well as refurbishment and major repair projects. Between 2006 and 2010, NASA has spent approximately $1.9 billion on these types of projects. This audit will examine whether NASA has effective plans and processes in place to appropriately identify, prioritize, and administer construction projects in a manner that enhances the Agency's ability to meet current and future mission requirements.

Hangar One Re-Siding Project

Hangar One is a NASA facility that has been closed and deemed unusable due to environmental contamination. The Navy, which previously owned the hangar, is in the process of decontaminating the facility, which will include removing the siding and interior of the facility, leaving only the building's steel supports. NASA is planning to "re-skin" the facility at a cost ranging from $32.8 million for providing a watertight facility to $65 million for re-siding and outfitting the interior for reuse. The OIG is examining NASA's plans for the facility and the effect the re-siding project may have on other NASA construction projects.

JPL's Occupational Safety Program

Working in the construction industry is one of the most dangerous occupations in the United States. According to the Bureau of Labor Statistics, 969 construction workers died from work-related injuries in 2008, and these deaths accounted for 19 percent of all work-related fatalities. During the same year, 322,700 non-fatal construction injuries occurred, accounting for 7 percent of all work-related injuries. The most common construction hazards are falls, electrocution, malfunctioning equipment, and trench cave-ins.

In response to a series of mishaps and employee allegations of unsafe and unhealthful working conditions, the OIG conducted an audit of construction operations at the Jet Propulsion Laboratory (JPL). In one instance brought to our attention, eight subcontractor employees entered a collapsed and unprotected trench to repair a damaged communications conduit. This unsafe act placed the workers at risk of serious injury or loss of life due to the potential for additional collapse of the trench and raised serious questions about the oversight and supervision of construction safety at JPL.

Workers in Collapsed, Unprotected Trench at JPL

2008 duct bank collapse at JPL during which subcontractor employees were placed at risk during repair work. Trench cave-in not reported to the JPL Occupational Safety Office for 3 days.

Photographs taken by Vanir Construction Management, Inc., July 18, 2008.

Our audit examined whether the JPL Occupational Safety Program Office had implemented an effective process to report, investigate, and document mishaps, close calls, and lessons learned. We also evaluated whether the two NASA offices with oversight responsibility of worker safety – the NASA Management Office and the Office of Safety and Mission Assurance (OSMA) – had conducted sufficient oversight of the JPL Occupational Safety Office to ensure that contractually mandated occupational safety and health requirements were effectively implemented at JPL.

We found that the JPL Occupational Safety Office had ineffective management systems and controls for construction safety. As a result, safety hazards were not recognized during the construction design review process, the building and structural inspection

process, or the hazard abatement process. For example, in 2009 the JPL Occupational Safety Office reviewed and approved design drawings and accepted a building constructed with a rooftop parapet that was not in compliance with California Occupational Safety and Health Administration standards. After the issue was discovered, NASA had to spend an additional $11,836 to build guardrails to address potential fall hazards.

We also found that although OSMA had procedures in place intended to ensure that JPL had implemented contractually mandated safety requirements, it failed to follow those procedures. In addition, the NASA Management Office did not have policies or procedures to ensure that JPL had fully implemented contractually mandated safety requirements. As a result, OSMA and NASA Management Office personnel did not identify the JPL Occupational Safety Office's internal control deficiencies and NASA management did not have the information required to make knowledgeable risk acceptance and mitigation decisions, a situation that placed JPL personnel and facilities at increased risk.

During the course of our audit, the JPL Occupational Safety Office took some but not all steps necessary to improve its hazard reporting processes. We recommended OSMA, the NASA Management Office, and the JPL Safety Office take additional actions to help ensure compliance with contractual safety requirements and reduce risk to personnel and facilities. JPL and the NASA Management Office initially agreed to implement many of our recommendations; subsequently, all of the recommendations were resolved.

Review of the Jet Propulsion Laboratory's Occupational Safety Program (IG-11-004, December 13, 2010)
http://oig.nasa.gov/audits/reports/FY11/IG-11-004.pdf

Status of Services Transferred to the NASA Shared Services Center

NASA established the NASA Shared Services Center (NSSC) at Stennis Space Center in 2006 to consolidate into a single location multiple financial management, human resources, IT, and procurement services that were being conducted by civil service and contractor personnel at NASA Headquarters and the 10 Centers. NASA's goals in establishing the NSSC included providing consistent, high-quality, and timely services at lower cost; reducing resources expended for institutional support areas; and freeing up Center resources to focus on performing NASA's core missions. According to the NSSC Implementation Plan, after a stabilization period of 3 years NASA could expect to save approximately $6 million per year and redirect more than 200 civil service, full-time equivalent positions to "critical mission-related activities."

We found that NASA has consolidated and transferred more than 40 services to the NSSC. However, the transfer of accounts payable and accounts receivable services was delayed, resulting in $3.75 million in additional costs. In addition, three human resource services – organizing health fairs, managing logistics related to recruiting, and arranging

awards ceremonies – that originally were transferred to the NSSC were subsequently returned to the Centers because of unexpectedly high costs. Returning these services to the Centers resulted in fewer Center positions available for redirection. NASA originally expected that approximately 200 civil service positions would be reassigned to "critical mission-related activities" as a result of creation of the NSSC; however, NASA did not define "critical mission-related activities" or provide the Centers with a consistent plan for how positions should be redirected to such activities. As a result, Centers developed their own interpretations of the term and established their own plans for redirecting staff. At the five Centers we visited, 77 positions were redirected and 50 positions were eliminated through attrition. Redirected employees were often placed in new positions or assigned to backfill positions in the same functional areas from which services had been transferred to the NSSC. Thus, staffing levels at these Centers experienced minimal change in the target functional areas.

NASA estimated it would save approximately $6 million per year by establishing the NSSC. In addition, the NSSC reported projected cost savings of $121 million from FY 2006 through FY 2015 and stated that NASA achieved the breakeven point on its investment in the NSSC in December 2008. However, our analysis determined that cost data supplied by the Centers, which was essential in determining the baseline cost calculations and return-on-investment projections, was not reliable or verifiable. We also found that NASA did not include in its return-on-investment calculations $15.2 million of funding (including $3.75 million for the delayed transfer of accounts payable and accounts receivable) the Agency used to supplement NSSC start-up costs. As a result, NASA's claim of a $121 million savings for FYs 2006 through 2015 and the reported breakeven point of December 2008 were based on flawed data and therefore inaccurate.

We recommended that the NASA Associate Administrator for Mission Support (1) develop a full-cost benefit assessment prior to transferring or implementing additional services to the NSSC; (2) develop a plan with milestones for the periodic re-evaluation of transitioned services to ensure their performance by NSSC personnel continues to be cost effective; (3) define and identify "critical mission-related activities," develop a plan to ensure that Center resources are redirected to those activities, and document any instances where such redirection is not possible; and (4) provide clear guidance on what data should be obtained and the methodology that should be used to project cost savings to ensure savings projections are supported by documented and verifiable data.

The Associate Administrator concurred with our recommendations and described a series of ongoing and planned actions by the Agency. We considered these actions to be responsive to our recommendations. We will close the recommendations upon completion and verification of the proposed corrective actions.

Status of Services Transferred from NASA Centers and Headquarters to the NASA Shared Services Center (IG-11-013, February 1, 2011)
http://oig.nasa.gov/audits/reports/FY11/IG-11-013.pdf

Federal Export Control Compliance

In a January 31, 2011, letter to Congress, we summarized our work over the past year relating to NASA's compliance with Federal export control laws. Among the products discussed was our audit examining NASA's controls over the disposition of information technology related to the Space Shuttle Program (see page 17 for a fuller description of this audit). In addition, we discussed a series of audits examining the Agency's security controls for its IT systems, many of which contain data subject to export control laws. Finally, we described several investigations involving the potentially unlawful disclosure of sensitive information covered by the ITAR or EAR, including several investigations of intrusions into NASA computer systems.

In all of these audits and investigations, we continue to work closely with NASA managers to reduce the risks associated with the illegal transfer of sensitive technologies and to ensure compliance with Federal export control laws.

The Inspector General's Annual Federal Export Control Compliance Letter to Congress (January 31, 2011)
http://oig.nasa.gov/audits/reports/FY11/Export_Control_Letter(1-31-11).pdf

Individual Sentenced for Attempting to Illegally Export Propulsion Technology

A New Jersey man was sentenced in U.S. District Court, Southern District of Florida, in October 2010 to serve 57 months in jail and 36 months' supervised release after pleading guilty to attempting to export RD-180 rocket propulsion technology to the Republic of South Korea without a license. The OIG conducted the investigation jointly with Immigration and Customs Enforcement and the Defense Criminal Investigative Service.

Former Contractor Employee Sentenced for Theft

In January 2011, a former NASA contractor employee was sentenced to serve 1 month of house arrest and 36 months' probation after pleading guilty to stealing items from Johnson Space Center, including an Omega watch used by astronauts, a NASA flight suit worn by astronaut Sally Ride, and space vehicle parts.

Former NASA Employee Sentenced

In November 2010, a former NASA employee was sentenced in U.S. District Court, Northern District of Alabama, to 18 months' probation and assessed a fine of $250. The former employee had pleaded guilty to entering false information into the Marshall Space Flight Center visitor center's computer system in order to improperly grant access

to private investigators from the employee's family business. The private investigators were conducting surveillance operations that had nothing to do with NASA business, and they would not have been granted access to the Center without the falsifications made by the employee.

Former Security Guard Sentenced for Theft at Wallops

A former NASA Wallops Flight Facility contract security guard was found guilty of wire fraud and sentenced by the U.S. District Court, Eastern District of Virginia, to serve 1 month of confinement and 3 years of supervised release and ordered to pay $17,053 in restitution. An OIG investigation determined that the security guard had stolen NASA electronic equipment valued at $8,302. The investigation also determined that the guard, while serving as a volunteer for the Stoney Point Fire Department in North Carolina, stole portable radios valued at $8,751 that had been purchased with Federal funds.

Former Contractor Employee Sentenced for Theft

A former NASA contractor employee pleaded guilty and was sentenced for misdemeanor theft by the State of Florida. The contractor employee was ordered to serve 12 months' probation and to pay restitution, including $700 to NASA for costs of the investigation. The plea was the result of an investigation by the OIG that recovered shop equipment and supplies belonging to NASA valued at $1,000 from the contractor employee's home.

Former Contractor Employee Sentenced for Theft of Copper

In February 2011, a former NASA contractor employee pleaded guilty to theft of copper belonging to Johnson Space Center and was sentenced in U.S. District Court, Southern District of Texas, to serve 3 years' probation, perform 300 hours of community service, and pay $3,000 in restitution and a $250 fine.

Former Contractor Employee Received Deferred Adjudication for Theft of Copper

In January 2011, a former NASA contractor employee pleaded guilty to felony theft of copper from Johnson Space Center. The contractor employee received deferred adjudication and was ordered by the State of Texas to serve 24 months' probation, perform 50 hours of community service, and pay a $500 fine.

Former Contractor Employee Sentenced for Theft at Marshall

A former NASA contractor employee was sentenced in U.S. District Court, Northern District of Alabama, to serve 12 months' probation and ordered to pay a $500 fine. The contractor employee had previously pleaded guilty to stealing a toolbox from Marshall Space Flight Center.

Army Sergeant and Co-Conspirators Debarred for Fraud Involving Excess NASA Computers

An Army sergeant and two co-conspirators were debarred from receiving any Government contracts for an indefinite period. The debarments resulted from an investigation that proved the sergeant and his co-conspirators obtained 15 excess computers under fraudulent pretenses from NASA and other Federal agencies and sold them for profit. All three men pleaded guilty to the thefts and were sentenced to incarceration and ordered to pay restitution. The OIG conducted the investigation jointly with the Federal Bureau of Investigation, the Army Criminal Investigation Command, and the Air Force's Office of Special Investigations.

Ongoing Audit Work

Controls over NASA's Reimbursement for College Degree Courses

NASA provides formal training to complement employee work experiences and achieve better organizational and individual performance. As part of this effort, NASA has established formal academic degree programs that allow qualified applicants to earn undergraduate or advanced degrees in NASA mission-related fields of interest at NASA expense. In addition, NASA funds employee participation in academic training courses not tied to a degree program. Finally, NASA funds academic training for contractor employees as part of various contractual agreements. Federal regulations prohibit the funding of academic degrees except through planned, systemic, and coordinated development programs linked to accomplishing the strategic goals of the agency. The OIG is examining whether the costs of NASA's program are reasonable, whether courses relate to employees' duties and the Agency's mission, and whether controls are in place to ensure effective management of academic training expenditures.

Administration and Management of NASA's Grant Program

NASA awards grants to facilitate research and development projects; to fund scholarships, fellowships, or stipends for students, teachers, or other faculty; and to fund research performed by educational institutions or other non-profit organizations. In FY 2010, NASA awarded a total of $890.7 million in such grants. The OIG is examining NASA's management of its grant program. In addition, the OIG is examining whether costs claimed under the grants are allowable, reasonable, and in accordance with applicable laws, regulations, guidelines, and grant terms and conditions.

NASA'S TOP MANAGEMENT AND PERFORMANCE CHALLENGES

As required by the Reports Consolidation Act of 2000, the NASA OIG issued a report during the reporting period discussing the most serious management and performance challenges facing the Agency. In deciding whether to identify an issue as a top challenge, we considered its significance in relation to the Agency's mission; its susceptibility to fraud, waste, and abuse; whether the underlying problems are systemic; and the Agency's progress in addressing the issue. In our report, we identified the following issues as the top management and performance challenges facing NASA:

Future of U.S. Space Flight

During FY 2010, NASA experienced its most significant period of transition since the end of the Apollo era: the impending retirement of the Space Shuttle after 30 years and more than 130 flights, the completion of the ISS, and the refocusing of priorities away from the Constellation Program. Foremost among NASA's Shuttle-related priorities is the need to safely complete the Program's remaining flights. In addition, the transition and retirement activities associated with the end of the Shuttle Program are one of the largest such efforts ever undertaken by NASA. The Shuttle Program is spread across hundreds of locations, occupies over 654 facilities, and involves more than 1.2 million line items of personal property with a total equipment acquisition value exceeding $12 billion.

Once the Space Shuttle has flown its last flight, NASA will need to rely on other countries for access to the ISS until either it develops its own follow-on system or a commercial vehicle is proven capable of carrying cargo and humans into space. With respect to cargo, NASA has been working to develop commercial providers for the past several years through its Commercial Orbital Transportation Services (COTS) Program. Efforts to develop commercial vehicles capable of carrying humans to the ISS and other low Earth orbit destinations present additional challenges. One issue of particular complexity is NASA's intent to "human-rate" any new flight system, whether developed commercially or by NASA. NASA only recently developed comprehensive human-rating standards for NASA-developed systems, and the certification process that will be used to human-rate commercial vehicles – several of which are already well under development – is not yet fully defined.

Finally, the NASA Authorization Act of 2010 directs the Agency to foster development of commercial cargo and crew capabilities while simultaneously developing its own launch system and crew vehicle. Addressing both of these responsibilities presents a significant management challenge for NASA leadership.

Acquisition and Project Management

Effective acquisition and project management are critical to NASA's ability to achieve its overall mission, but systemic weaknesses in these areas have proven a long-standing challenge for the Agency. Both the OIG and the Government Accountability Office have found that cost growth and schedule slippage in NASA programs are often due to the Agency's failure to address systemic acquisition management weaknesses related to requirements growth, cost estimating, technology development, design stability, funding, and system integration. To improve its project management, NASA must use sound management tools to identify and mitigate programmatic risks. Given that NASA spends approximately 85 percent of its $18 billion budget on contracts and awards, the OIG is focusing increased attention on contract management issues to help ensure that NASA is paying contractors in accordance with contract terms and is receiving what it paid for on schedule.

Infrastructure and Facilities Management

NASA controls a network of approximately 5,400 buildings and structures that support Agency research, development, and flight activities. NASA's ability to effectively manage the necessary maintenance and renovation of this large and aging portfolio of facilities is a critical challenge facing the Agency. According to NASA's 2008 Real Property Asset Management Plan, approximately 10 to 50 percent of NASA's warehouses and 30 to 60 percent of its laboratories are underutilized. NASA officials also report that more than 80 percent of the Agency's facilities are 40 or more years old and beyond their design life. In FY 2009, NASA reported spending approximately $283 million to repair and maintain its facilities, while Agency-wide deferred maintenance costs that year were estimated at $2.55 billion. The ongoing challenge for NASA leadership in this area is to reduce the backlog of essential maintenance projects. Failure to do so will further increase the risk that Agency facilities will not be available for future use or will pose additional risks to the safety of personnel and equipment and the accomplishment of NASA's missions.

Human Capital

The retirement of the Space Shuttle and NASA's redirection from the Constellation Program to support for development of commercial space flight capabilities present the Agency with the significant challenge of balancing its workforce structure with the needs of its shifting missions. As NASA reassesses its acquisition and workforce transition plan, the OIG will continue to monitor the Agency's progress in addressing its changing human capital challenges.

Information Technology Security

NASA IT systems and networks control spacecraft, collect and process scientific data, and enable NASA personnel to collaborate with their colleagues around the world. Users of these systems number in the hundreds of thousands and include NASA personnel, contractors, academia, and the public. As computer technology has advanced, NASA has become dependent on computerized information systems to carry out daily operations and to process, maintain, and report essential information. Although most NASA IT systems contain data that may be widely shared, others house sensitive information which, if released or stolen, could result in significant financial loss or adversely affect national security. Accordingly, it is imperative that NASA properly protect its IT systems and networks.

Achieving the Agency's IT security goals will require sustained improvements in NASA's overarching IT management practices. As part of our FY 2009 and FY 2010 FISMA audits, the OIG found that NASA's IT security program had not fully implemented key requirements needed to adequately secure Agency information systems and data. See page 20 for a summary of the OIG's FY 2010 FISMA audit. The significance of NASA's IT security weaknesses is highlighted by the increasing number of cybersecurity threats facing the Agency. These threats are evolving, in both scope and sophistication, and present an ongoing challenge to NASA managers.

Financial Management

After receiving disclaimers of opinion on its financial statements during the previous 7 years, NASA was able to develop sufficient financial evidence and documentation to allow auditors to issue a qualified opinion on the Agency's FY 2010 financial statements. The qualification was related to the valuation of PP&E and materials in prior years and its possible effects on the current year statements of net cost and changes in net position. Due to the volatility of NASA's property balances and the risk of recording estimates for property, accounting for PP&E remains a significant management challenge. Ongoing efforts by NASA management to develop a robust and rigorous review process that both validates and challenges the adequacy of estimation techniques and the sufficiency of supporting documentation are important in preparing for future audits of these estimates. The volatility and risk associated with these balances are expected to decline as legacy contracts conclude.

Over the past several years, NASA financial managers – working with the OIG and the independent accounting firm – have continued to make steady progress resolving previously identified weaknesses, and their efforts resulted in the auditors' qualified opinion. While the ultimate goal for the Agency is an unqualified opinion, the FY 2010 results are a significant accomplishment and position NASA well for the future.

NASA's Most Serious Management and Performance Challenges (November 12, 2010)
http://oig.nasa.gov//NASA2010ManagementChallenges.pdf

LEGAL ISSUES

Ethics Program

The OIG legal staff revamped its ethics training module during the reporting period. This annual training reviews the standards of conduct for Executive Branch employees and is required for all financial filers within the OIG. The training was revised to focus on new social media issues, as well as rules regarding the use of Government-owned vehicles and cases involving criminal conflicts of interest. The training was presented to all OIG staff in November 2010.

Whistleblower Allegations

During the reporting period, the OIG legal staff analyzed two cases involving allegations of whistleblower reprisal on behalf of former contractor employees. We determined that one contractor employee's allegations did not meet the requirements to establish a meritorious violation of 10 U.S.C. § 2409. In the other case, we determined that the employee had been terminated for poor performance rather than in retaliation for making a protected whistleblower disclosure.

Legal Review of the Use of Government-Owned Vehicles

OIG legal staff reviewed the legal issues associated with use of Government-owned vehicles (GOVs) by OIG special agents. This effort resulted in updates to the document authorizing OIG special agents to utilize GOVs to commute between home and work. In addition, the OIG legal staff participated in a Government-wide working group of OIG attorneys exploring solutions to legal issues surrounding the use of GOVs by law enforcement officers.

Training

NASA OIG attorneys contributed to the development of the curriculum of two courses for the benefit of lawyers advising IG organizations: an orientation course for new OIG attorneys and advanced instruction on OIG legal jurisdiction and authority. Both courses will be available through the Training Institute of the Council of the Inspectors General on Integrity and Efficiency (CIGIE).

CONGRESSIONAL TESTIMONY

NASA's Top Management and Performance Challenges

On February 10, 2011, Inspector General Martin testified before the U.S. House of Representatives Committee on Appropriations' Subcommittee on Commerce, Justice, Science, and Related Agencies. In his testimony, the IG discussed the top management and performance challenges facing the Agency, including the challenges described in the OIG's November 2010 report to the NASA Administrator and Congress (see page 38).

The IG noted that NASA finds itself in a state of significant uncertainty, particularly with respect to its human space program, as it continues to transition from the Space Shuttle to the next generation of space vehicles. He also drew attention to the conundrum caused by conflicting legislative directives in the NASA Authorization Act of 2010 and a holdover provision in NASA's FY 2010 appropriations law that prevents the Agency from terminating any aspect of the Constellation Program or from initiating new programs to implement the Authorization Act. The IG encouraged the Subcommittee to support enactment of a legislative solution to this issue as soon as possible.

Inspector General Martin also highlighted several ongoing or planned OIG reviews intended to help NASA address its top challenges, including audits examining the extent to which NASA's project managers are positioned to effectively manage Agency acquisition projects and whether NASA is effectively managing the Mars Science Laboratory and the National Polar-orbiting Operational Environmental Satellite System Preparatory Project.

Major Challenges Facing NASA in 2011
http://oig.nasa.gov/NASA2011MajorChallenges.pdf

REGULATORY REVIEW

During this reporting period, the OIG reviewed and commented on 19 NASA directives and regulations, including 1 that was subsequently withdrawn. The following issue was of particular interest to the OIG.

NASA Quality Assurance Program

NASA Policy Directive 8730.5A, "NASA Quality Assurance Program Policy," was updated to cover commercial services and commercial off-the-shelf item procurements; to require qualification of parts, products, and processes whose performance is considered essential for safe and successful missions; and to provide quality management system requirements for critical and high-value research and technology development work. This update also adds counterfeiting to the noncompliant conditions reportable to the OIG. We recommended timely notification to OIG and the Acquisition Integrity Program when noncompliant conditions indicate evidence of fraud, counterfeiting, malpractice, or other serious misconduct.

OUTREACH ACTIVITIES

During this reporting period, the OIG engaged in a number of outreach activities that involved coordination with the Agency, other OIGs, and other Federal agencies.

- OI and OIG legal representatives participated in a Government-wide Counterfeit Parts Working Group that is developing an implementation framework and strategy for reducing vulnerability to counterfeit parts entering Federal Government supply channels. The Working Group's activities are being conducted in collaboration with a Federal Government-wide joint strategic plan on intellectual property enforcement.

- OI's Western Field Office participated in monthly and quarterly meetings and liaison activities with other Federal and local law enforcement agencies, including the U.S. Attorney's "Head Fed" Quarterly Meetings, DOJ's Anti-Terrorism Advisory Council, the FBI's Terrorism Early Warning Group, the Los Angeles Regional DOJ Procurement Fraud Working Group, the Western Region Inspectors General Council, the Los Angeles and San Francisco Joint Terrorism Task Forces, and the Federal Executive Board of Greater Los Angeles.

- The Assistant Inspector General for Investigations, the Director of OA's Science and Aeronautics Research Directorate, the OA statistician, and the Project Manager for the SBIR audit continue to support the "OIG SBIR Fraud Working Group," co-sponsored by the OIGs of NASA and the National Science Foundation.

- The NASA OIG is hosting the quarterly Federal Recovery Accountability and Transparency Board Working Group meetings during 2011. During the reporting period, the Deputy Assistant Inspector General for Audits and Mission Support Directorate representatives participated in two meetings during which agency representatives discussed reporting templates and FY 2011 work plans, Board activities, and the posting of Quality Control Reviews.

- In December 2010, an OA Project Manager from the IT Directorate began participating in a cybersecurity working group composed of members from other Federal OIGs. The intent of the working group is to provide guidance and best practices for the IG community with respect to IT security oversight responsibilities. The group expects to develop a written report with cybersecurity best practices for the IG community by the end of FY 2011.

- In October 2010, OA's Director for Financial Management attended the Single Audit Roundtable at KPMG's offices in Washington, D.C. Representatives from the American Institute of Certified Public Accountants, OMB, other Federal OIGs, other Government and not-for-profit entities, the Federal Audit Clearinghouse, and independent public accountants met to discuss current issues and share ideas involving single audits.

- An OA Project Manager and a Procurement Analyst from the Audit Operations and Quality Assurance Directorate participated as members of a working group of the Federal Audit Executive Council's Contracting Committee to address contracting issues relative to audits. The meetings were conducted between October 2010 and March 2011.

AWARDS

CIGIE Awards Ceremony

The Council of the Inspectors General on Integrity and Efficiency (CIGIE) held its 13th Annual Awards Ceremony on October 19, 2010, to recognize the work of OIG employees across the Federal Government.

NASA OI Special Agent Kelly Cervenka and Resident Agent in Charge Melanie Martinson were recognized for outstanding investigations. Cervenka's investigation resulted in the conviction of a NASA contractor that had knowingly manufactured defective parts for the Space Shuttle Endeavour. Martinson's investigations into cybercrimes committed against NASA included one that resulted in the arrest of foreign nationals who disrupted NASA's IT systems.

In addition, a NASA OA audit team was honored for outstanding teamwork and exceptional performance in an audit examining NASA's evaluation of the $7.5 billion contract for operation of the Jet Propulsion Laboratory (IG-09-022).

(pictured left to right) Inspector General Paul Martin; Special Agent in Charge, Headquarters Operations, Sarah Surber; Auditor William Falter; Deputy Assistant Inspector General for Investigations Matt Kochanski; OA Project Manager Diane Choma; Special Agent Kelly Cervenka; Resident Agent in Charge Melanie Martinson; Special Agent in Charge, Computer Crimes Division, John Garris; and OA Program Director, Science and Aeronautics Research Directorate, Ray Tolomeo.

Appendixes

Appendix A. Inspector General Act Reporting Requirements

INSPECTOR GENERAL ACT CITATION	REQUIREMENT DEFINITION	CROSS REFERENCE PAGE NUMBER(S)
Section 4(a)(2)	Review of Legislation and Regulations	43
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	8–37
Section 5(a)(2)	Recommendations for Corrective Actions	8–37
Section 5(a)(3)	Prior Significant Audit Recommendations Yet to Be Implemented	54–55
Section 5(a)(4)	Matters Referred to Prosecutive Authorities	58
Sections 5(a)(5) and 6(b)(2)	Summary of Refusals to Provide Information	None
Section 5(a)(6)	OIG Audit Products Issued—Includes Total Dollar Values of Questioned Costs, Unsupported Costs, and Recommendations that Funds Be Put to Better Use	52–53
Section 5(a)(7)	Summary of Significant Audits and Investigations	8–37
Section 5(a)(8)	Total Number of Reports and Total Dollar Value for Audits with Questioned Costs	56
Section 5(a)(9)	Total Number of Reports and Total Dollar Value for Audits with Recommendations that Funds Be Put to Better Use	56
Section 5(a)(10)	Summary of Prior Audit Products for which No Management Decision Has Been Made	None
Section 5(a)(11)	Description and Explanation of Significant Revised Management Decisions	None
Section 5(a)(12)	Significant Management Decisions with which the Inspector General Disagreed	None
Section 5(a)(13)	Reporting in Accordance with Section 5(b) of the Federal Financial Management Improvement Act of 1996 Remediation Plan	None

Debt Collection

The Senate Report accompanying the supplemental Appropriations and Rescissions Act of 1980 (Public Law 96-304) requires Inspectors General to report amounts due to the Agency as well as amounts that are overdue and written off as uncollectible. NASA's Financial Management Division provides these data each November for the previous fiscal year. For the period ending September 30, 2010, the receivables due from the public totaled $1,893,744, of which $715,007 is delinquent. The amount written off as uncollectible for the period October 1, 2009, through September 30, 2010, was $568,464.

Appendix B. Statistical Information

During the period October 1, 2010, through March 31, 2011, the Office of Audits issued 15 products.

Table 1: Audit Products and Impact

REPORT NO / DATE ISSUED	TITLE	IMPACT
Audit Area: Acquisition and Project Management		
IG-11-010 1/12/11	Review of NASA's Management of Its Small Business Innovation Research Program	Our work identified the inefficient use of funds that could be put to better use supporting the SBIR Program. This report identified $2.7 million in questioned costs and $13.3 million in funds that could be put to better use.
IG-11-012 2/17/11	Review of NASA's Acquisition of Commercial Launch Services	NASA could put between $61 million and $156 million to better use by using a Minotaur instead of a launch vehicle acquired from commercial sources for the SMAP mission.
IG-11-014 3/3/11	NASA's Use of Recovery Act Funding for the James Webb Space Telescope Project	Ensured that the performance results on JWST Project activities funded by the Recovery Act fulfilled the intent of the Act.
Audit Area: Information Technology		
IG-11-005 11/10/10	Federal Information Security Management Act: Fiscal Year 2010 Report from the Office of Inspector General	Improvements in internal controls for IT security through the establishment of management programs and processes.
IG-11-009 12/7/10	Preparing for the Space Shuttle Program's Retirement: A Review of NASA's Procedures for the Disposition of Information Technology Equipment	Improved IT disposition processes and controls to help ensure that NASA information is not inadvertently released to the public.
IG-11-017 3/28/11	Inadequate Security Practices Expose Key NASA Network to Cyber Attack	Increased vulnerability management and continuous monitoring capability for NASA computer networks, which will decrease the theft of export-controlled and other sensitive data from the Agency's networks.
Audit Area: Space Operations and Exploration		
IG-11-003 11/10/10	Final Memorandum Assessing Launch Services Program's Interim Response Team Training Requirements	Improved assurance that response team members can effectively execute team-assigned roles and responsibilities.
IG-11-016 3/15/11	Preparing for the Space Shuttle Program's Retirement: Review of NASA's Controls over Public Sales of Space Shuttle Property	Improved processes to reduce risks of unauthorized release of export-controlled Space Shuttle property and forfeiture of proceeds from sales of Space Shuttle property.

Table 1: Audit Products and Impact (continued)

REPORT NO / DATE ISSUED	TITLE	IMPACT
Audit Area: Financial Management		
IG-11-006 11/15/10	Audit of the National Aeronautics and Space Administration's Fiscal Year 2010 Financial Statements	Improvements in NASA's ability to provide auditable financial statements and sufficient evidence to support the financial statements throughout the fiscal year and at year end.
IG-11-007 11/16/10	Final Report, "Information Technology Management Letter Comments," Prepared by Ernst & Young LLP in Connection with the Audit of NASA's Fiscal Year 2010 Financial Statements	Improvements in the effectiveness of the information technology control environment.
IG-11-008 11/15/10	Audit of the National Aeronautics and Space Administration's Fiscal Year 2010 Special-Purpose Financial Statements	Improvements in NASA's ability to provide auditable special-purpose financial statements and sufficient evidence to support the financial statements throughout the fiscal year and at year end.
Audit Area: Infrastructure and Facilities Management		
IG-11-015 3/2/11	Audit of NASA's Facilities Maintenance	Communicated our concerns on NASA's planning, budgeting, and determining costs for maintenance and repair activities.
Audit Area: Other		
IG-11-004 12/13/10	Review of the Jet Propulsion Laboratory's Occupational Safety Program	Improved JPL's occupational safety program and reduced risk to NASA personnel and facilities.
IG-11-013 2/1/11	Status of Services Transferred from NASA Centers and Headquarters to the NASA Shared Services Center	Improved controls to ensure that service transfers to NSSC are cost-effective and any resulting projected cost savings are supportable.
Audit Area: Quality Control Review		
IG-11-011 1/10/11	Final Memorandum on the Quality Control Review of the PricewaterhouseCoopers LLP and the Defense Contract Audit Agency Office of Management and Budget Circular A-133 Audit of the Jet Propulsion Laboratory for the Fiscal Year Ended September 27, 2009	Ensure compliance with generally accepted government auditing standards and OMB Circular A-133 requirements.

Table 2: Prior Significant Audit Recommendations Yet to Be Implemented

REPORT NO / DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
NEW SINCE LAST REPORTING PERIOD					
Audit Area: Acquisition and Project Management					
IG-10-015 6/18/10	Review of NASA's Microgravity Flight Services	6/18/2010	1	2	12/31/2012
Audit Area: Information Technology					
IG-10-024 9/16/10	Review of NASA's Management and Oversight of Its Information Technology Security Program	9/16/2010	3	0	9/30/2011
IG-10-022 9/9/10	Status of NASA's Transition to Internet Protocol Version 6 (IPv6)	9/9/2010	1	0	4/15/2011
IG-10-019 9/14/10	Audit of NASA's Efforts to Continuously Monitor Critical Information Technology Security Controls	9/14/2010	2	0	8/1/2011
IG-10-018-R 8/5/10	Audit of Cybersecurity Oversight of [a NASA] System (Redacted)	8/5/2010	15	0	9/30/2011
IG-10-013 5/13/10	Review of the Information Technology Security of [a NASA Computer Network]	7/1/2010	2	0	12/31/2010[1]
IG-10-013-a 7/1/10	Addendum				
Audit Area: Space Operations and Exploration					
IG-10-023 9/21/10	Review of NASA's Tracking and Data Relay Satellite System	9/21/2010	1	0	4/30/2011
IG-10-016 7/16/10	NASA's Astronaut Corps: Status of Corrective Actions Related to Health Care Activities	7/6/2010	1	1	12/31/2012
Audit Area: Financial Management					
IG-10-017 7/27/10	Audit of NASA's Recovery Act Procurement Actions at Johnson Space Center, Goddard Space Flight Center, Langley Research Center, and Ames Research Center	7/27/2010	2	1	4/14/2011
Audit Area: Other					
IG-10-021 8/23/10	Final Memorandum on the Office of Inspector General's Review of the Fleet Management Program at the Jet Propulsion Laboratory	8/23/2010	1	2	3/30/2012

[1] The OIG is working with management to determine a revised target closure date.

Table 2: Prior Significant Audit Recommendations Yet to Be Implemented (continued)

REPORT NO / DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
REPORTED IN PREVIOUS SEMIANNUAL REPORTS					
Audit Area: Acquisition and Project Management					
IG-09-017 7/27/09	Opportunities to Improve the Management of the Space Flight Awareness Honoree Launch Conference Event	7/27/2009	1	0	7/29/2011
IG-07-029 9/18/07	Audit of NASA Education and Training Grants	9/18/2007	1	4	4/29/2011
Audit Area: Information Technology					
IG-09-015 4/27/09	NASA's Processes for Providing Personal Identity Verification (PIV) Cards Were Not Completely Effective in Meeting Federal Requirements	4/27/2009	3	3	12/31/2011
IG-09-015-a 6/4/09	Addendum				
IG-07-014 6/19/07	Controls over the Detection, Response, and Reporting of Network Security Incidents Needed Improvement at Four NASA Centers Reviewed	6/19/2007	3	5	6/30/2011
IG-06-007 3/17/06	NASA's Implementation of Patch Management Software Is Incomplete	3/17/2006	1	1	11/15/2010[2]
IG-05-016 5/12/05	NASA's Information Technology Vulnerability Assessment Program	5/12/2005	1	3	3/31/2011[2]
Audit Area: Space Operations and Exploration					
IG-10-011 3/29/10	Review of the Constellation Program's Request to Discontinue Using the Metric System of Measurement	5/3/2010	3	0	9/30/2011
IG-10-011-a 5/3/10	Addendum				
IG-10-012 3/25/2010	Review of NASA's Progress on Retiring the Space Shuttle Program	3/25/2010	1	0	6/1/2011
Audit Area: Safety (Managing Risk)					
IG-08-025 9/19/08	[A NASA] Center's Security Program Needed Improvement	9/19/2008	4	4	9/30/2011
Audit Area: Other					
IG-09-003 11/13/08	Final Memorandum on the Review of NASA Stolen Property at Goddard Space Flight Center and Marshall Space Flight Center	11/13/2008	1	4	9/30/2011

[2] OIG is reviewing management's request for closure.

Table 3: Audits with Questioned Costs

	NUMBER OF AUDIT REPORTS	TOTAL QUESTIONED COSTS
No management decision made by beginning of period	0	0
Issued during period	1	$2,700,000
Needing management decision during period	1	$2,700,000
Management decision made during period Amounts agreed to by management Amounts not agreed to by management	 0 0	 0 0
No management decision at end of period Less than 6 months old More than 6 months old	 1 0	 $2,700,000 0

Table 4: Audits with Recommendations that Funds Be Put to Better Use

	NUMBER OF AUDIT REPORTS	TOTAL FUNDS TO BE PUT TO BETTER USE
No management decision made by beginning of period	0	0
Issued during period	2	$74,300,000
Needing management decision during period	2	$74,300,000
Management decision made during period Amounts agreed to by management Amounts not agreed to by management	 0 0	 0 0
No management decision at end of period Less than 6 months old More than 6 months old	 2 0	 $74,300,000 0

Table 5: Status of A-133* Findings and Questioned Costs Related to NASA Awards

Total audits reviewed		24
Audits with recommendations		19
Recommendations with Questioned Costs		
	NUMBER OF RECOMMENDATIONS	COSTS FOR REVIEW
Beginning balance	118	$8,334,122
Recommendations added during the reporting period	101	$31,682,157
Recommendations dispositioned (costs disallowed/questioned costs recovered/sustained)	(32)	($269,148)
Ending balance	187	$39,747,131

* OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations," requires Federal award recipients to obtain audits of their Federal awards.

Table 6: Legal Activities and Reviews

FOIA matters	11
Appeals	0
IG subpoenas issued	58
Regulations reviewed, including one withdrawn	19

Table 7: Office of Investigations Activities

a. Complaint Intake Disposition

SOURCE OF COMPLAINT	ZERO FILES[1]	ADMINISTRATIVE INVESTIGATIONS[2]	MANAGEMENT REFERRALS[3]	PRELIMINARY INVESTIGATIONS[4]	TOTAL
Hotline	40	9	5	6	60
All others	75	26	7	84	192
Total	**115**	**35**	**12**	**90**	**252**

[1] Zero files are complaints for which no action is required or that are referred to NASA management for information only or to another agency.
[2] Administrative investigations include non-criminal matters initiated by OI as well as hotline complaints referred to OA.
[3] Management referrals are complaints referred to NASA management for which a response is requested.
[4] Preliminary investigations are complaints where additional information must be obtained prior to initiating a full criminal or civil investigation.

b. Full Investigations Opened this Reporting Period

Full criminal/civil investigations*	12

* Full investigations evolve from preliminary investigations that result in a reasonable belief that a violation of law has taken place.

c. Cases Pending at End of Reporting Period

Preliminary investigations	88
Full criminal/civil investigations	112
Administrative investigations	33
Total	**233**

d. Qui Tam[1] Investigations[2]

Opened this reporting period	3
Pending at end of reporting period	11

[1] A qui tam is a civil complaint filed by an individual on behalf of the U.S. government under the civil False Claims Act.
[2] The number of qui tam investigations is a subset of the total number of investigations opened and pending.

Table 7: Office of Investigations Activities (continued)

e. Judicial Actions

Cases referred for prosecution	59
Indictments/criminal informations	14
Convictions/plea bargains	13
Sentencing/pretrial diversions	22
Civil settlements/judgments	3

f. Administrative Actions

Recommendations to NASA management for disciplinary action		**30**
Involving a NASA employee	16	
Involving a contractor firm	–	
Involving a contract employee	12	
Other	2	
Administrative/disciplinary actions taken		**28**
Against a NASA employee	12	
Against a contract employee	16	
Recommendations to NASA management on program improvements		**3**
Matters of procedure	3	
Safety issues or concerns	–	
Program improvement actions taken		**1**
Matters of procedure	1	
Referrals to NASA management for review and response		**15**
Referrals to NASA management – information only		**15**
Referrals to the Office of Audits		**4**
Referrals to Security or other agencies		**16**
Suspensions or debarments from Government contracting		**5**
Involving an individual	4	
Involving a contractor firm	1	

g. Investigative Receivables and Recoveries

Judicial	$18,664,906	
Administrative*	$680,952	
Total	**$19,345,858**	
Total to NASA		**$989,721**

* Includes amounts for cost savings to NASA as a result of investigations.

Defense Contract Audit Agency Audits of NASA Contractors

The Defense Contract Audit Agency (DCAA) provides audit services to NASA on a reimbursable basis. DCAA provided the following information during this period on reports involving NASA contract activities.

DCAA Audit Reports Issued

During this period, DCAA issued 57 audit reports on contractors who do business with NASA. Corrective actions taken in response to DCAA audit report recommendations usually result from negotiations between the contractors doing business with NASA and the Government contracting officer with cognizant responsibility (e.g., the Defense Contract Management Agency and NASA). The cognizant agency responsible for administering the contract negotiates recoveries with the contractor after deciding whether to accept or reject the questioned costs and recommendations for funds to be put to better use. The following table shows the amounts of questioned costs and funds to be put to better use included in DCAA reports issued during this semiannual reporting period and the amounts that were agreed to during the reporting period.

Table 8: DCAA Audit Reports with Questioned Costs and Recommendations that Funds Be Put to Better Use, and Amounts Agreed To[1, 2]

	AMOUNTS IN ISSUED REPORTS	AMOUNTS AGREED TO[3]
Questioned costs	$9,767,000	$84,274,000
Funds to be put to better use	$33,657,000	$43,924,000

[1] These data are provided to the NASA OIG by DCAA and may include forward pricing proposals, operations, incurred costs, cost accounting standards, and defective pricing audits. Because of limited time between availability of management information system data and legislative reporting requirements, there is minimal opportunity for DCAA to verify the accuracy of reported data. Accordingly, submitted data are subject to change based on subsequent DCAA authentication.

[2] The data presented do not include statistics on audits that resulted in contracts not awarded or in which the contractor was not successful.

[3] Amounts agreed to include amounts from reports issued in previous semiannual reporting periods.

Appendix C. Glossary and Acronyms

Glossary

Administrative Investigation. An administrative investigation is an inquiry into allegations of misconduct, wrongdoing, or administrative matters, the results of which could lead to disciplinary action.

Disallowed Cost (the IG Act of 1978 definition). A questioned cost that management, in a management decision, has sustained or agreed should not be charged to the government.

Investigative Recoveries. Investigative recoveries are the total dollar value of (1) recoveries during the course of an investigation (before any criminal or civil prosecution); (2) court (criminal or civil) ordered fines, penalties, and restitutions; and (3) out-of-court settlements, including administrative actions resulting in noncourt settlements.

Investigative Referrals. Investigative referrals are cases that require additional investigative work, civil or criminal prosecution, or disciplinary action. Those cases are referred by the OIG to investigative and prosecutive agencies at the federal, state, or local level or to agencies for management or administrative action. An individual case may be referred for disposition to one or more of these categories.

Judicial Actions. Investigative cases referred for prosecution that are no longer under the jurisdiction of the OIG, except for cases on which further administrative investigation may be necessary. This category comprises cases investigated by the OIG and cases jointly investigated by the OIG and other law enforcement agencies. Prosecuting agencies will make decisions to decline prosecution; to refer for civil action; or to seek out-of-court settlements, indictments, or convictions. Indictments and convictions represent the number of individuals or organizations indicted or convicted (including pleas and civil judgments).

Latest Target Closure Date. Management's current estimate of the date it will complete the agreed-upon corrective action(s) necessary to close the audit recommendation(s).

Management Decision (the IG Act of 1978 definition). The evaluation by management of the findings and recommendations included in an audit report and the issuance of a final decision by management concerning its response to such findings and recommendations, including actions that management concludes are necessary.

Questioned Cost (the IG Act of 1978 definition). A cost that is questioned by the OIG because of (1) alleged violation of a provision of a law, regulation, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds; (2) a finding that, at the time of the audit, such cost is not supported by adequate documentation; or (3) a finding that the expenditure of funds for the intended purpose is unnecessary or unreasonable.

Recommendation Resolved. A recommendation is considered resolved when (1) management agrees to take the recommended corrective action, (2) the corrective action to be taken is resolved through agreement between management and the OIG, or (3) the Audit Followup Official determines whether the recommended corrective action should be taken.

Recommendation that Funds Be Put to Better Use (the IG Act of 1978 definition). A recommendation by the OIG that funds could be more efficiently used if management took actions to implement and complete the recommendation, including (1) reductions in outlays; (2) deobligation of funds from programs or operations; (3) withdrawal of interest subsidy costs on loans or loan guarantees, insurance, or bonds; (4) costs not incurred by implementing recommended improvements related to the operations of the establishment, a contractor, or grantee; (5) avoidance of unnecessary expenditures noted in pre-award reviews of contract or grant agreements; or (6) any other savings that are specifically identified. (Note: Dollar amounts identified in this category may not always allow for direct budgetary actions but generally allow the Agency to use the amounts more effectively in the accomplishment of program objectives.)

Qui Tam. Latin for "who as well." A lawsuit brought by a whistleblower on behalf of the government under the civil False Claims Act, where a share of recoveries can be awarded to the whistleblower.

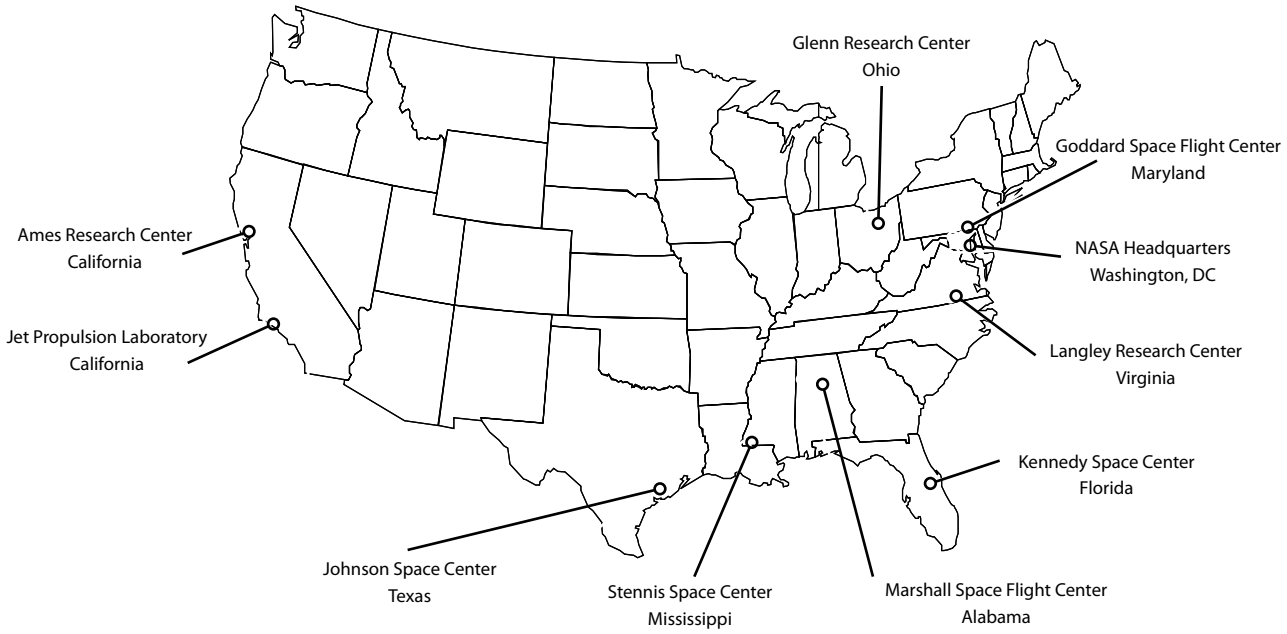
Unsupported Cost (the IG Act of 1978 definition). An unsupported cost is a cost that is questioned by the OIG because the OIG found that, at the time of the audit, the cost was not supported by adequate documentation.

Acronyms

ARMD	Aeronautics Research Mission Directorate
CIGIE	Council of the Inspectors General on Integrity and Efficiency
CIO	Chief Information Officer
COTS	Commercial Orbital Transportation Services
DCAA	Defense Contract Audit Agency
DOJ	Department of Justice
EAR	Export Administration Regulations
ELV	Expendable Launch Vehicle
EY	Ernst & Young LLP
FAR	Federal Acquisition Regulation
FISMA	Federal Information Security Management Act
FMR	Federal Management Regulation
FOIA	Freedom of Information Act
FY	Fiscal Year
GOV	Government-owned Vehicle
GSA	General Services Administration
IG	Inspector General
IPv6	Internet Protocol Version 6
ISS	International Space Station
IT	Information Technology
ITAR	International Traffic in Arms Regulations
JPL	Jet Propulsion Laboratory
JWST	James Webb Space Telescope
LRO/ LCROSS	Lunar Reconnaissance Orbiter/ Lunar Crater Observation and Sensing Satellite
MSL	Mars Science Laboratory
MSU	Mississippi State University

NASA	National Aeronautics and Space Administration
NENS	Near Earth Network Services
NLS	NASA Launch Services
NPOESS	National Polar-orbiting Operational Environmental Satellite System
NRA	NASA Research Announcement
NSSC	NASA Shared Services Center
OA	Office of Audits
OCO	Orbiting Carbon Observatory
OI	Office of Investigations
OIG	Office of Inspector General
OMB	Office of Management and Budget
OMP	Office of Management and Planning
OSMA	Office of Safety and Mission Assurance
PIV	Personal Identity Verification
PP&E	Property, Plant, and Equipment
SBA	Small Business Administration
SBIR	Small Business Innovation Research
SCNS	Space Communications Network Services
SFFAS	Statement of Federal Financial Accounting Standards
SMAP	Soil Moisture Active Passive
SOC	Security Operations Center
STTR	Small Business Technology Transfer

Appendix D. NASA OIG Offices of Audits and Investigations



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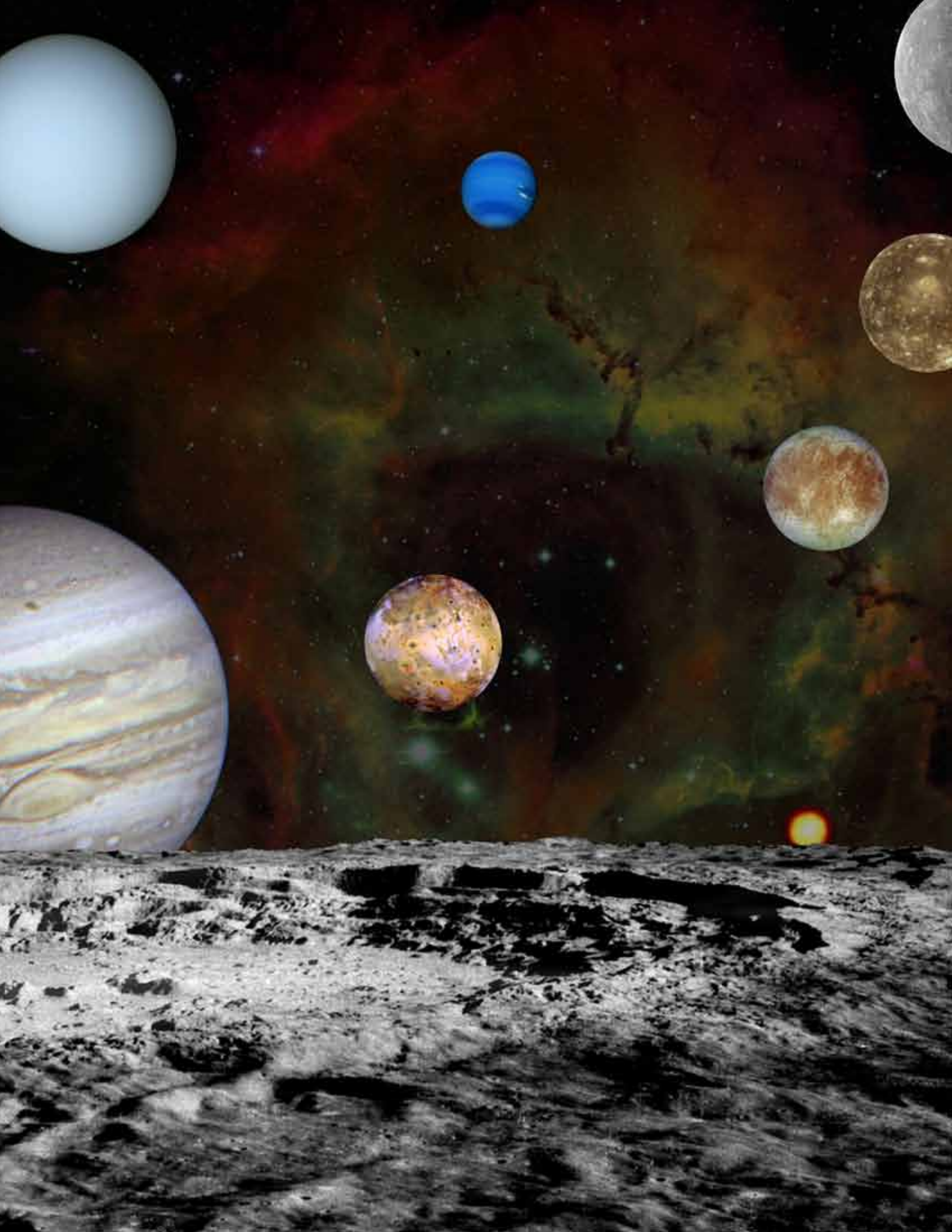

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