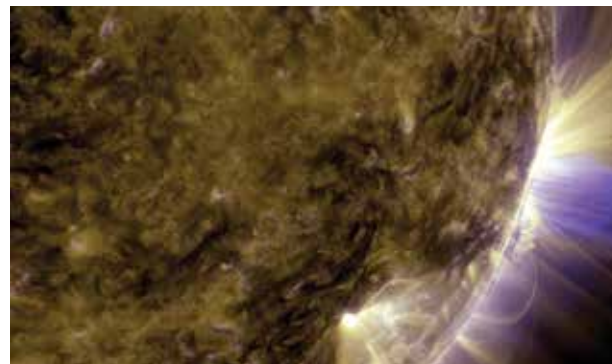


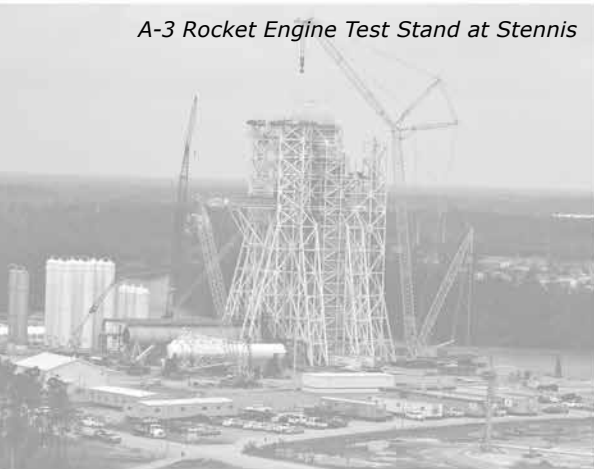
NASA OFFICE OF INSPECTOR GENERAL

SEMIANNUAL REPORT

October 1, 2012–March 31, 2013



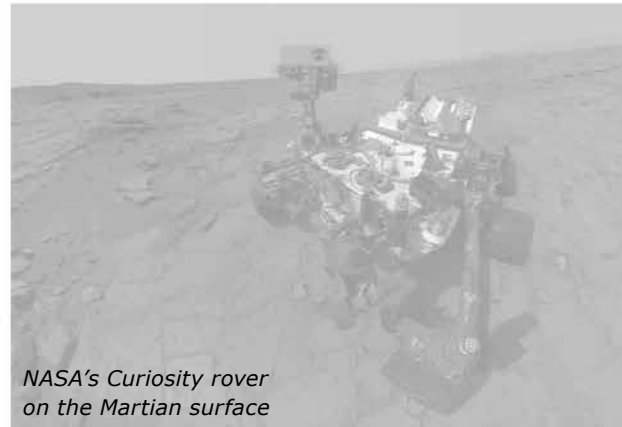
A-3 Rocket Engine Test Stand at Stennis



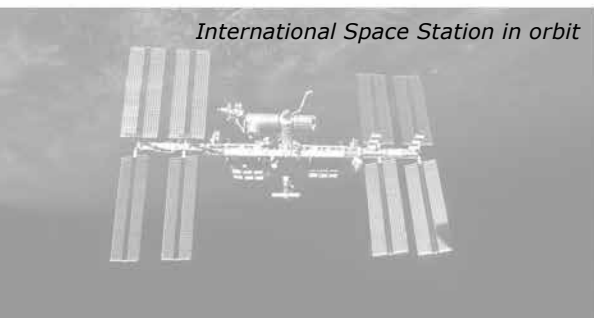
Space Exploration Technologies' Falcon 9 rocket lifts off from Cape Canaveral



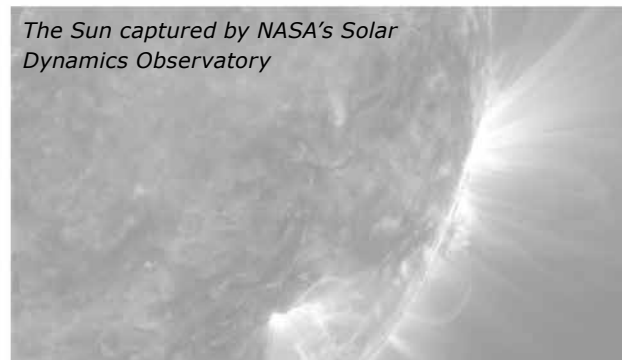
NASA's Curiosity rover on the Martian surface



International Space Station in orbit



The Sun captured by NASA's Solar Dynamics Observatory





FROM THE INSPECTOR GENERAL

The successful landing of the Curiosity rover on the surface of Mars in August 2012 energized the public about NASA's activities in a way not seen since the final Space Shuttle flight. Similarly, successful commercial resupply missions to the International Space Station (ISS) in October 2012 and March 2013 marked a milestone toward NASA's goal of fostering development of a commercial space-transportation capability to low-Earth orbit.

The past year was not without its challenges, however, including the need to reprogram funds from several Agency initiatives to accommodate cost overruns in the James Webb Space Telescope and other projects. This shift contributed to developmental delays in several ongoing projects and the cancellation of others, including a joint project with the European Space Agency for planned missions to Mars in 2016 and 2018. At the same time, NASA is moving forward with the development of a new rocket, capsule, and related launch infrastructure to enable crewed missions to an asteroid, the Moon, or Mars – expensive and technically complex undertakings in an increasingly austere budget environment.

From our perspective, declining budgets and fiscal uncertainties present the most significant external challenges to NASA's ability to successfully move forward on its diverse portfolio of science, exploration, and aeronautics projects. With respect to Agency priorities, during this reporting period the Office of Inspector General (OIG) identified five top management and performance challenges: (1) The Future of U.S. Human Space Flight, (2) Project Management, (3) Infrastructure and Facilities Management, (4) Acquisition and Contract Management, and (5) Information Technology Security and Governance.

The OIG is committed to providing independent, aggressive, and objective oversight of NASA. This Semiannual Report summarizes our activities and accomplishments from October 1, 2012, through March 31, 2013 – we hope you find it informative.

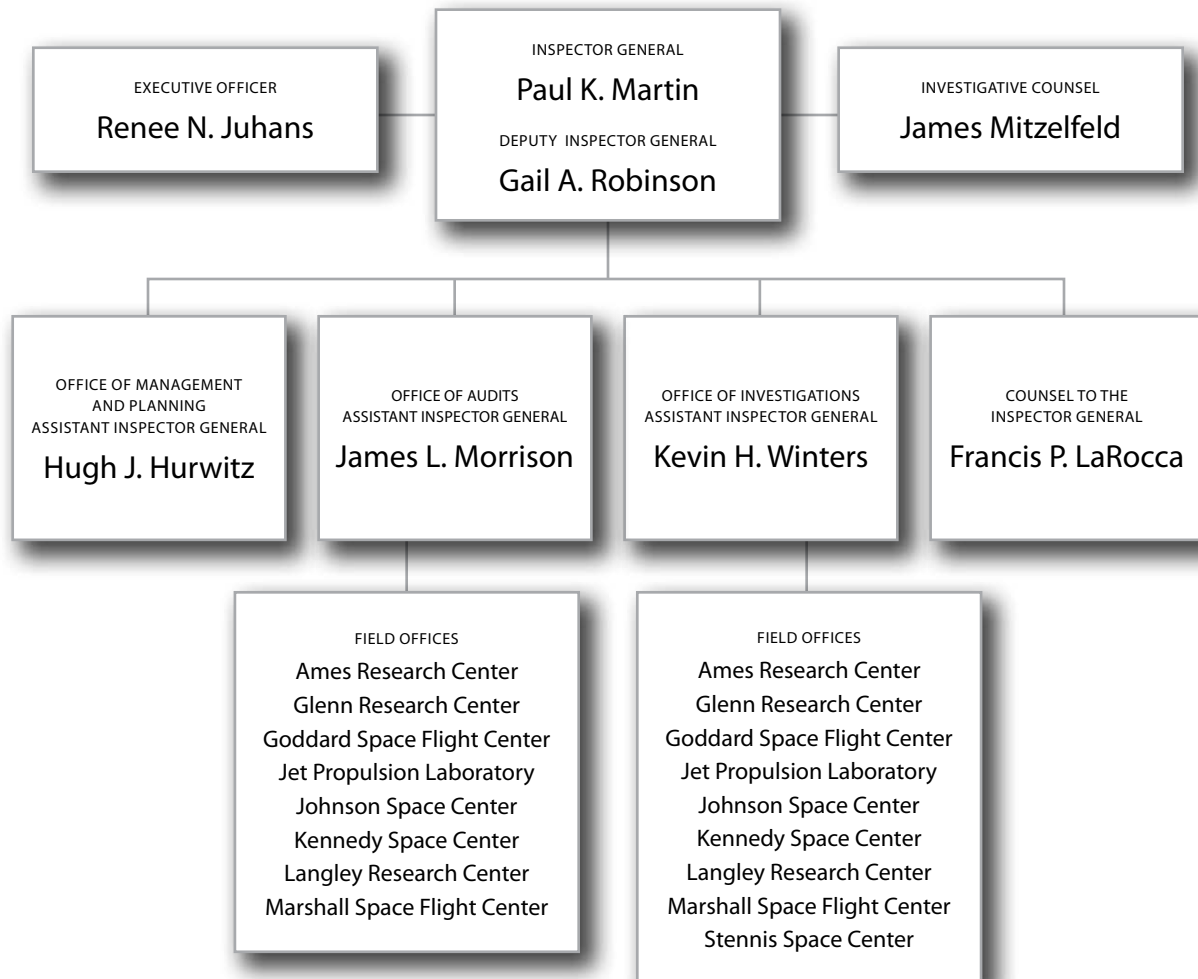
A handwritten signature in black ink that reads "PKM-A". The letters are stylized and connected.

Paul K. Martin
Inspector General
April 29, 2013

Contents

Office of Inspector General	1
Special Review	3
Audits and Investigations	
Infrastructure and Facilities Management	5
Acquisition and Project Management	11
Human Exploration and Space Operations	18
Information Technology Security and Governance ...	20
Financial Management	23
Other Matters	26
NASA's Top Management and Performance Challenges	28
Congressional Testimony	33
Legal Issues	34
Regulatory Review	35
Outreach Activities	36
Awards	38
Appendixes	45
A. Inspector General Act Reporting Requirements ...	47
B. Statistical Information	48
C. Peer Reviews	56
D. Glossary and Acronyms	57
E. NASA OIG Offices of Audits and Investigations	61

OFFICE OF INSPECTOR GENERAL



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 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 assists the IG in managing the full range of the OIG's programs and activities and provides supervision to the Assistant Inspectors General and Counsel 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 conducts special reviews of NASA programs and personnel.

THE OFFICE OF MANAGEMENT AND PLANNING provides financial, procurement, human resources, administrative, and information technology services and 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 in its 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 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 Department of Justice when the OIG participates as part of the prosecution team or when the OIG is a witness or defendant.

SPECIAL REVIEW

NASA's Efforts to Encrypt Its Laptop Computers

On October 31, 2012, a NASA-issued laptop containing hundreds of files and e-mails with the Social Security numbers and other forms of personally identifiable information (PII) of nearly 40,000 individuals was stolen from the vehicle of a NASA Headquarters employee. Although the laptop was password protected, neither the laptop itself nor the individual files were encrypted. (Encryption protects data from unauthorized access by converting it into unreadable code that cannot be easily deciphered.)

This was not the first time NASA experienced a significant loss of sensitive data as a result of the theft of an unencrypted Agency laptop. For example, in March 2012 a bag containing a government-issued laptop, NASA access badge, and a token used to enable remote-access to a NASA network was stolen from a car parked in the driveway of a Kennedy Space Center employee. A review revealed that the stolen computer contained the names, Social Security numbers, and other PII for 2,400 NASA civil servants as well as two files containing sensitive information related to a NASA program. As a result of the theft, NASA incurred credit monitoring expenses of approximately \$200,000. Other significant losses occurred in November 2011 with the theft of an unencrypted laptop containing sensitive IT security information from the car of an employee of the Ames Research Center and the March 2011 theft of an unencrypted laptop containing export-controlled data, including sensitive information relating to the ISS, from the car of a Johnson Space Center employee.

After the October 31 theft, NASA contracted with a company to provide credit monitoring services to affected individuals. For this and other related services, NASA estimates it will expend approximately \$850,000. In addition, the Administrator accelerated NASA's effort to encrypt the hard drives of the Agency's laptop computers, directing that all laptops be encrypted by December 21, 2012. In early December, the OIG conducted an expedited review to examine the status of NASA's laptop encryption effort.

We found that NASA's full-disk encryption effort had been repeatedly delayed due to slow implementation of the Agency's information technology (IT) services contract, the highly decentralized nature of IT management at the Agency, and a lack of sufficient internal controls. We also found that NASA did not have a reliable accounting of the number of laptops in its possession and that it was therefore unlikely to meet its self-imposed deadline of installing encryption software on 100 percent of required machines by December 21. We made several recommendations to the Agency to address these deficiencies.

Although the Agency did not meet its original December deadline, by March 2013 it had substantially completed its laptop encryption efforts.

NASA's Efforts to Encrypt its Laptop Computers (Special Review, December 17, 2012)
[http://oig.nasa.gov/Special-Review/SpecialReview\(12-17-12\).pdf](http://oig.nasa.gov/Special-Review/SpecialReview(12-17-12).pdf)

AUDITS AND INVESTIGATIONS

Infrastructure and Facilities Management

Infrastructure and facilities management has been a long-standing top management challenge for NASA leaders. The NASA Authorization Act of 2010 directed the Administrator to undertake a comprehensive study examining NASA's institutional assets, paying particular attention to identifying and removing unneeded or duplicative infrastructure. NASA completed this study in February 2012 and issued a report that provides a framework for how the Agency plans to address its infrastructure challenges. In light of the enormity of this challenge, the OIG is focusing significant audit resources on this topic.

NASA's Effort to Reduce Unneeded Infrastructure

NASA is the ninth largest Federal Government real property holder, controlling more than 124,000 acres and over 4,900 buildings and other structures that have a replacement value exceeding \$30 billion. A large portion of NASA's infrastructure was constructed in the 1960s during the Apollo era and nearly 80 percent of the Agency's facilities are 40 or more years old.



Built in 1965, Marshall's Advanced Engine Test Facility was last used in 1999.

Source: NASA.

NASA, the NASA OIG, the Government Accountability Office, and Congress have long identified NASA's aging and duplicative infrastructure as a high priority and top management challenge. For decades, NASA has struggled with reducing its infrastructure and failed to meet specific reduction goals. NASA officials readily acknowledge that the Agency has more infrastructure than it needs to carry out current and planned missions. Nevertheless, the Agency continues to retain real property that is underutilized, does not have identified future mission uses, or is duplicative of other assets in its inventory.

In this review, we identified 33 facilities, including wind tunnels, test stands, thermal vacuum chambers, airfields, and launch-related infrastructure, that the Agency was not fully utilizing or for which Agency managers could not identify a future mission use. The need for these facilities – which cost the Agency more than \$43 million to maintain in fiscal year 2011 alone – has declined in recent years due to changes in NASA's mission focus, poor condition and obsolescence, and the advent of alternative testing methods. We also found that NASA's efforts to manage and reduce the number of underutilized

facilities in its portfolio have been hindered by several long-standing and interrelated challenges: (1) fluctuating and uncertain strategic requirements, (2) Agency culture and business practices, (3) political pressure, and (4) inadequate funding.

To its credit, NASA has a series of initiatives underway that we view as positive steps towards “rightsizing” its real property footprint. The development of the Agency Facilities Strategy and Integrated Master Plan, capability assessments, and organizational changes to centralize decision authority over infrastructure



Due to uncertain requirements for its new "heavy-lift" rocket development project, NASA will not know until after 2015 whether it needs to retain Kennedy's Booster Recovery Slip. Until a decision is made, the Agency plans to maintain the facility at a cost of nearly \$2.6 million per year.

Source: NASA.

matters should better position the Agency to strategically assess infrastructure needs, manage underutilized property, and divest itself of facilities that are duplicative or unneeded. However, many of these efforts are in the early stages and their ultimate effect on the Agency's ability to reduce its real property portfolio remains unclear. In addition, we noted that the Agency's efforts may be insufficient to overcome the cultural and political obstacles that have impeded past efforts to reduce unneeded infrastructure and that an independent outside process similar to the Department of Defense's Base Realignment and Closure Commission may ultimately be necessary.

We recommended that NASA complete its comprehensive technical capabilities assessment and ensure the process is established into policy; develop a process for communicating decisions to outside stakeholders to promote transparency and agreement; expedite the implementation of the Corporate Portfolio Management process and ensure it is updated, documented, and established into policy; and implement changes to the NASA Technical Capabilities Database to improve data accuracy. NASA agreed to take actions to address each of our recommendations.

*NASA's Efforts to Reduce Unneeded Infrastructure and Facilities
(IG-13-008, February 12, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-008.pdf>

NASA's Environmental Remediation Efforts at the Santa Susana Field Laboratory

The Santa Susana Field Laboratory (Santa Susana) is located on 2,850 acres approximately 30 miles northwest of downtown Los Angeles. Decades of nuclear energy research by the Department of Energy and rocket testing by the U.S. Air Force and NASA at Santa Susana have resulted in radiological and chemical contamination of the soil and groundwater at the site.

Like all federal agencies, NASA is required to comply with laws and regulations that govern cleanup of contaminants left behind from Agency activities. Generally, responsible parties are required to conduct risk assessments to evaluate the threat that contaminants pose to human health, identify the reasonably foreseeable use of the affected property, and structure their remediation efforts based on those results. The Boeing Company, which owns and is responsible for the cleanup of the majority of the Santa Susana site, has publicly stated that it intends to preserve its portion for use as open space parkland. This intended use would normally require remediation to a "recreational" level, but Boeing has indicated that it will clean its area to a more stringent "residential" level. The NASA portion of the site (approximately 450 acres) is also expected to be used as parkland.

In December 2010, NASA entered into an agreement with California officials in which it pledged to clean the soil at the Santa Susana site to "background" levels by 2017. In essence, the Agency agreed to restore the soil to its original state before any rocket testing activities began.

We found that NASA has committed to an excessive and unnecessarily costly cleanup. Specifically, the Agency agreed to clean its portion of the Santa Susana site to a level that exceeds the generally accepted standard necessary to protect human health in light of the expected future use.

Although the precise requirements of the cleanup and therefore its ultimate cost have not been finalized, NASA estimates that remediation to "background" levels could cost more than \$200 million, or more than twice the cost to clean the site to "residential" levels and more than eight times the cost to clean it to a "recreational" use standard. In addition, because cleanup to background levels may require highly invasive soil removal, there is a risk that such efforts would result in significant damage to the surrounding environment as well as to archeological, historical, and natural resources at the site.

We questioned whether NASA's agreement to clean its portion of the Santa Susana site to background levels is the best use of taxpayer funds. Given NASA's other environmental commitments and the fiscal constraints facing the Agency and the Nation, we concluded that NASA can ill afford to spend tens of millions of dollars to clean up an area beyond its risk level or expected use.

We recommended that NASA re-examine its current plans for the Santa Susana cleanup and ensure that its remediation effort is conducted in the most cost-effective manner in keeping with the expected future use of the property. In its response to the report, NASA declined to indicate whether it agreed with our recommendation or would re-examine its current cleanup plans. Instead, the Agency pledged to work toward a cleanup that achieves “cost avoidance” and preserves cultural and natural resources within the requirements of its existing agreement with the State of California. In analyzing the Agency’s response, we cautioned that it is not clear that NASA can achieve the most appropriate and cost effective remediation effort given the constraints of the current agreement.

NASA’s Environmental Remediation Efforts at the Santa Susana Field Laboratory
(IG 13-007, February 14, 2013)
<http://oig.nasa.gov/audits/reports/FY13/IG-13-007.pdf>

Review of NASA’s Explosives Safety Program

Energetic materials – explosives, propellants, and pyrotechnics – play an important role in many NASA programs, in particular all space missions. For example, lifting a satellite into orbit using an Atlas V expendable launch vehicle begins with the electrical initiation of the propellant fuel – refined kerosene combined with liquid oxygen – feeding the first stage rocket engines. Thereafter, energetic materials are used to jettison the solid rocket boosters strapped to the main rocket once their fuel has been expended, separate the protective cover and nose cone covering the satellite payload, separate the first stage of the rocket from the second stage, and ignite the second stage engines.

Failure to follow proper safety procedures when dealing with energetic materials can have catastrophic consequences, including loss of life; serious injury; damage to facilities, equipment, and the environment; and loss of mission capabilities. Explosive Safety Officers (ESO) at each NASA Center are responsible for implementing the Agency’s Explosives, Propellants, and Pyrotechnic Safety Program (Explosives Safety Program), which is designed to protect NASA personnel, property, and the public.

We found that NASA’s Explosives Safety Program was poorly managed and exposed Agency personnel and structures to unnecessary risk. Specifically, we identified 155 violations of regulations, policies, procedures, and processes involving unsafe conditions and practices at the sites we visited – some of which could have resulted in significant damage, injury, or death to NASA personnel. Systemic deficiencies we observed included incompatible explosive materials

stored in the same space, inaccurate or incomplete inventories of materials, and improper inspection procedures for vehicles that transport energetic materials. For example, at Stennis Space Center a facility not originally designed to store energetic materials was being used to both store explosives and conduct tests involving electro-explosive devices – a direct violation of NASA safety standards. In addition, incompatible explosive materials were stored in the same location resulting in a miscalculation of the safe separation distance between the materials and an occupied building. At the Wallops Flight Facility, the physical condition of hundreds of rockets containing potentially explosive propellant had never been assessed and explosive components and assemblies ranging from small arms ammunition to rocket motors could not be reconciled with inventory records.

We promptly notified officials at each of the sites we visited of issues that posed an immediate safety concern, and responsible personnel addressed those issues in a timely manner.

In our judgment, a lack of oversight, resources, and training at both the Center and Headquarters levels contributed to the deficiencies we identified. For example, we found that NASA Headquarters did not conduct required audits, provide guidance and resources, or perform appropriate oversight of Center Explosives Safety Programs and operations. In addition, ESOs at the sites we visited did not conduct appropriate annual inspections of energetic materials and did not provide adequate oversight of explosive materials owned and stored by tenants on NASA property. We also found that the ESO duty was an ancillary responsibility and the ESOs often did not have sufficient resources to carry out their assigned responsibilities. Furthermore, we found that the ESOs generally did not demonstrate the knowledge or have the appropriate experience or training required to make programmatic and technical decisions regarding the Explosives Safety Program.

We made seven recommendations to NASA's Chief of Safety and Mission Assurance, including that he initiate a review of management, storage, and handling procedures for energetic materials at all Centers and Facilities to identify deficiencies, take corrective actions, and share best practices; immediately conduct an Agency-wide inventory of energetic materials and initiate an investigation of any missing materials; review personnel and fiscal resource allocations; and review and correct deficiencies regarding the qualifications and training of personnel who work in the Agency's Explosives Safety Programs. NASA concurred with each of our recommendations.

Review of NASA's Explosives Safety Program (IG-13-013, March 27, 2013)
<http://oig.nasa.gov/audits/reports/FY13/IG-13-013.pdf>

Ongoing Audit Work

NASA's Environmental Remediation Efforts

Federal law requires NASA to consider environmental impacts when planning activities that may have a significant impact upon the quality of the environment and to respond to any release of hazardous substances that may endanger public health or the environment. Accordingly, NASA's efforts to dispose of unneeded or underutilized facilities must address the associated costs of environmental remediation, including the costs of cleaning up chemicals released into the environment in connection with past Agency activities. In its fiscal year 2013 budget request, NASA identified approximately 122 cleanup projects located across all its facilities with an estimated remediation cost of more than \$1 billion. This audit will examine NASA's overall environmental remediation efforts.

Acquisition and Project Management

In the current environment of decreased spending and restricted budget profiles for Federal agencies, effective contract, grant, and project management is more critical than ever at NASA. The OIG continues to focus its resources to help ensure that NASA engages in sound management practices that provide the Agency and the taxpayer with the best value. In addition, OIG investigators continue to examine allegations of fraud and other misconduct related to NASA contracts and grants.

Mars Atmosphere and Volatile Evolution (MAVEN) Project

The Mars Atmosphere and Volatile Evolution (MAVEN) Project is scheduled to launch in November 2013 at an expected cost of \$453 million. To provide insight into the history of the Red Planet's atmosphere, climate, and habitability, MAVEN will study how the loss of carbon dioxide, nitrogen dioxide, and water from the Martian atmosphere occurred over time. The Project is the last mission undertaken as part of NASA's Mars Scout Program, an Agency initiative that competitively selected relatively low-cost robotic missions to Mars.

In a September 2012 report, we identified a series of challenges NASA managers face in meeting project cost, schedule, and performance goals for Agency projects: overly optimistic cost and schedule estimations, underestimating technical complexity, unstable funding, and limited development opportunities for program managers.¹



Artist's concept of MAVEN in orbit of Mars.
Source: NASA.

In this audit of the MAVEN Project, we found that Project managers successfully addressed several of these challenges by using a disciplined management approach to achieve cost, schedule, and performance goals. Specifically, the mission's experienced Project manager demonstrated strong leadership and project-management skills while proactively recruiting experienced staff. In addition, the Project management team closely followed NASA acquisition policies,

which resulted in effective oversight and administration of the Project. Moreover, development efforts were aided by the use of heritage technology that had flown successfully on previous NASA missions, and the Project was not subjected to the type of funding instability that has plagued other NASA projects. Finally, the team effectively utilized newly implemented management initiatives and tools to facilitate timely and well-informed decisions, used innovative contract management to motivate contractor performance, and developed comprehensive

¹ NASA OIG, "NASA's Challenges to Meeting Cost, Schedule, and Performance Goals" (IG-12-021, September 27, 2012).

risk mitigation plans. Collectively, these efforts have controlled costs, proactively managed risk, and established adequate reserve levels that favorably position the Project to mitigate remaining programmatic challenges and meet the planned November 2013 launch date.

Although we did not make specific recommendations to the MAVEN team, we encouraged the Associate Administrators for NASA's Mission Directorates and the Agency's Chief Engineer to analyze MAVEN's project-management successes, identify the tools that helped minimize common project development issues, and apply these lessons to other NASA projects. NASA responded that the Science Mission Directorate would work with the Chief Engineer to capture and share lessons learned from the MAVEN Project.

Mars Atmosphere and Volatile Evolution (MAVEN) Project
(IG-13-009, February 21, 2013)
<http://oig.nasa.gov/audits/reports/FY13/IG-13-009.pdf>

NASA's Internal Controls for Awards with Small Businesses

The Small Business Act authorizes Federal agencies, including NASA, to "set aside" contracts for small business firms or for small business owners who are members of socioeconomically disadvantaged groups. In fiscal year 2010, NASA obligated approximately \$16.5 billion in contracts, \$1.2 billion of which was awarded in 5,513 small business contracts, to acquire a variety of supplies and services such as sensors, flight tests, software licenses and support, and training.

We found that NASA had adequate controls in place to establish fair and reasonable contract prices and oversee contractor performance. Specifically, procurement officials properly applied proposal analysis to establish fair and reasonable contract prices and monitored contractor deliverables to ensure they met contract specifications. However, in our evaluation of a sample of 67 small business awards for indicators of fraud or abuse, we found signs that some contractors may have submitted false self-certifications. Specifically, 20 of the 67 sampled awards were made to woman-owned small businesses. Of these 20, we found indications that 7 (35 percent) were made to 6 firms that may not meet the criteria for a woman-owned small business, namely that the business is at least 51 percent owned by one or more women and daily operations are controlled by one or more women.

Although we were unable to determine how many of the firms were actually ineligible, these cases raised concerns about vulnerabilities in the program. Accordingly, we referred our findings to the Government Accountability Office and Small Business Administration for their consideration. In addition, we urged Agency officials to be aware of the fraud risks inherent in these programs

and to work with the Small Business Administration and other Federal agencies to develop mitigation measures.

In response to our report, NASA said that it recognizes the need for vigilance regarding these programs and that it will work with its partners to develop risk mitigation measures.

Review of NASA's Internal Controls for Awards with Small Businesses (IG-13-010, February 28, 2013)

<http://oig.nasa.gov/audits/reports/FY13/IG-13-010.pdf>

NASA Contractor Employees Plead Guilty

In March 2013, five executives of two Arlington, Virginia, security firms pleaded guilty to fraudulently obtaining more than \$31 million in government contract payments set aside for disadvantaged small businesses. After becoming ineligible to participate in the disadvantaged small business program, the executives conspired to create a shell company in order to illegally obtain minority business contracts from NASA and other Government agencies. Through the conspiracy, the shell company secured more than \$31 million in government payments, which generated more than \$6 million in salary and other payments to the executives.

The five executives pleaded guilty to major fraud or conspiracy to commit major fraud. One executive also pleaded guilty to conspiracy to commit bribery for making a \$50,000 payment to a government contracting official in exchange for the official's help in securing Federal contracts. The executives face penalties ranging from 5 to 10 years in prison and multi-million dollar fines. Two executives have already agreed to forfeit more than \$7.5 million as part of their plea agreement. Sentencing is scheduled for June 2013.

Company Executives Indicted for Defrauding the U.S. Government

In March 2013, two company executives were indicted for wire fraud, conspiracy to commit wire fraud, and money laundering in the U.S. District Court for the Northern District of California. The two executives, through their scientific research company, Atlas Scientific, allegedly defrauded NASA and the National Science Foundation (NSF) by creating the false impression that they had not applied for overlapping Small Business Innovation Research (SBIR) grants with NASA and NSF. Atlas Scientific applied for and received multiple research grants from NSF and NASA totaling \$1,299,881. The SBIR program requires that grantees disclose similar or "essentially equivalent" research proposals the grantee has submitted to other federal agencies.

Government Contractors Agree to Civil Settlement and Default Judgment

In December 2012, the Department of Justice entered into a \$3.6 million civil settlement with Crown Roofing Services, Inc., USS Engineering LLC, and company owners resolving claims that the companies violated the False Claims and Anti-Kickback statutes in connection with a NASA contract. An investigation by the NASA OIG found that the companies made illegal payments to two Johnson Space Center contracting officials. Both officials previously pled guilty to related criminal charges.

Civil Settlement with Government Contractor

In February 2013, World Wide Technology, Inc., agreed to pay \$735,000 to settle allegations that it violated the Trade Agreements Act, which requires that goods provided to the Government be manufactured in designated countries. The investigation began after the company self-disclosed that it may have incorrectly certified that certain products sold to NASA and the Department of Defense were in compliance with the Act. A joint investigation by the Department of Defense and NASA OIG confirmed that the company had improperly filled 174 orders, including 29 NASA orders worth \$255,000, using Chinese-manufactured products.

University Agrees to Civil Settlement

In October 2012, a university agreed to pay \$422,000 to settle allegations of mischarging on Government grants. A joint investigation by the NASA and Nuclear Regulatory Commission OIGs revealed that a former university professor had directed staff who were not conducting grant-related work to charge their time to the grants.

Contractor Agrees to Civil Settlement

A U.S. Army Corps of Engineers contractor working to decommission the NASA Plum Brook Station reactor facility agreed to pay NASA \$139,878 in a civil settlement following an OIG investigation that found the contractor had failed to account for a subcontractor as an affiliated entity. In doing so, the contractor inappropriately added general and administrative costs related to the affiliated subcontractor's invoiced amounts that resulted in an overpayment to the contractor that was subsequently passed on to NASA.

Former NASA Scientist Enters into Civil Settlement

In October 2012, a former Langley Research Center scientist agreed to pay \$15,000 to settle charges that he violated Federal conflict of interest laws. An investigation determined that shortly before retiring from NASA the scientist drafted a statement of work creating a position for himself with a NASA contractor. Upon retiring, the scientist went to work for the contractor. The scientist entered into a pretrial diversion program after agreeing that he violated Federal conflict of interest laws.

Florida Entities Resolve Misuse of NASA and Department of Commerce Grants

In November 2012, the Technological Research and Development Authority (TRDA) in Titusville, Florida, agreed to pay \$15 million to resolve allegations that it violated the False Claims Act by using NASA and Department of Commerce grants for unauthorized purposes.

Our investigation found that TRDA and the Melbourne Airport Authority improperly used grant funds to construct an office building at the Melbourne (Florida) airport for use as TRDA's headquarters and as a small business incubator facility. The subsequent lawsuit filed by the Department of Justice's Civil Division alleged that construction of the office building was outside the scope and contrary to the terms of the grants. The Melbourne Airport Authority agreed to pay the United States \$4 million to resolve the claims related to its conduct.

Contractors Suspended from Doing Business with the U.S. Government

Based on a NASA OIG investigation with other federal law enforcement agencies, the United States Air Force suspended 11 affiliated contractors and their officers from directly or indirectly receiving Small Business Innovation Research contracts from the federal government. The investigation found that the contractors were performing research contracts for multiple Government agencies, to include NASA and the Air Force, but had falsely claimed research and development costs for components already developed and sold commercially. Our investigation also determined that the contractors had submitted duplicate research proposals and received multiple awards for the same research.

Former Principal Investigator Debarred for Misuse of Funds

Following an investigation by the NASA and NSF OIGs, a former principal investigator from Morehouse College was debarred from doing business with the Federal Government for a period of 5 years. The investigation revealed that the principal investigator misused grant funds for personal travel expenses and for equipment and services unrelated to the grants. Morehouse College agreed to pay \$1.2 million to the U.S. government in a civil settlement as the result of the investigation.

Former NASA Program Manager Debarred for Ethics Violations

A former NASA program manager was debarred from doing business with the Government for 3 years after pleading guilty to using his official position to approve contract payments to a company with which he was negotiating employment in violation of Federal conflict of interest laws. Upon retirement from NASA, the manager went to work for the company.

Ongoing Audit Work

Audit of NASA's Orbiting Carbon Observatory-2 Project

The Orbiting Carbon Observatory-2 (OCO-2) is NASA's second iteration of an Earth-orbiting satellite designed to make precise, time-dependent measurements of atmospheric carbon dioxide and improve predictions regarding the effect increases in the level of the gas may have on the Earth's climate. After both the first Orbiting Carbon Observatory satellite and another climate-observing satellite, Glory, failed on launch due to problems with the Taurus XL launch vehicle, NASA decided to consider alternate launch vehicles for OCO-2 and other pending missions. This decision altered the cost, schedule, and performance metrics for OCO-2. This audit is examining the Agency's efforts to meet these revised metrics and to track and account for Recovery Act funds associated with the Project.

NASA's Use of Award-Fee Contracts

To encourage innovative, efficient, and effective performance, Federal agencies give contractors the opportunity to earn monetary incentives known as award fees by meeting or exceeding performance criteria outlined in their contracts. This audit is examining whether NASA's use of award fees is consistent with requirements, policies, and procedures and whether the Agency is effectively using award fees to motivate contractor performance.

NASA's Strategic Sourcing Program

Strategic sourcing involves analyzing an agency's spending and management of sourcing strategies with the goal of acquiring goods and services in a more cost-effective and efficient manner. In May 2005, the Office of Management and Budget directed Federal agencies to develop strategic sourcing plans that would result in reduced prices, reduced administrative costs, improved performance, and increased small business participation. In January 2006, NASA's Office of Procurement created the NASA Strategic Sourcing Program. This audit is evaluating NASA's implementation of this Program to determine whether it has resulted in cost savings for the Agency.

NASA's Award Closeout Process

The closeout process helps ensure that contractors and grantees have met the financial and reporting requirements of an award and allows NASA to identify and redirect unused funds to other projects and priorities. This audit is examining whether NASA has procedures in place to ensure that award instruments close in a timely manner and in accordance with established requirements and any unused funds are identified and de-obligated.

NASA's Management of Space Act Agreements

NASA has relied on its authority under the Space Act of 1958 to enter into agreements with diverse groups of people and organizations to advance wide-ranging program objectives. These arrangements – concluded under the “other transactions” authority of the Act – are commonly referred to as Space Act Agreements. NASA currently has more than 1,000 Space Act agreements with other Federal agencies, U.S. companies and educational institutions, foreign governments, and other entities. This audit is evaluating NASA's management of its Space Act Agreements, including whether the Agency is accurately billing and collecting amounts from agreement partners and receiving fair and reasonable benefits from the agreements.

Human Exploration and Space Operations

Human exploration and space operations are among NASA's most highly visible missions. The emergence of commercial companies seeking to provide access to the ISS and low-Earth orbit and development of new technologies for future long-term exploration are top Agency challenges and therefore the subject of OIG overview.

Alaska Moon Rock Returned

A plaque containing lunar material presented to the State of Alaska by President Nixon in 1969 has been returned to the State. The plaque, known as the Alaska Moon Rock, had been missing for nearly 40 years. Coleman Anderson, who claimed that he found the plaque in the early 1970s abandoned in the rubble of a fire, had sued the state seeking title to the plaque. The NASA OIG assisted the Alaska State Attorney's Office and the Anchorage U.S. Attorney's Office in gathering information that discounted Anderson's claim and led to return of the plaque.

Ongoing Audit Work

NASA's Management of Commercial Cargo Spaceflight Development Programs

Beginning in 2006, NASA began funding commercial companies through Space Act Agreements to develop spaceflight capabilities for cargo transportation to the ISS. In 2008, NASA awarded two companies – Space Exploration Technologies Corporation (SpaceX) and Orbital Sciences Corporation (Orbital) – fixed price service contracts for resupplying the ISS. As of March 2013, SpaceX has completed two resupply missions and Orbital's first mission is scheduled for September 2013. This audit is assessing NASA's management of its commercial cargo program.

NASA's Management of Commercial Crew Spaceflight Development Programs

Since the Space Shuttle's retirement in July 2011, NASA has had to rely on the Russians to transport U.S. astronauts to the ISS. NASA's Commercial Crew Program continues to use a combination of Space Act Agreements and Federal Acquisition Regulation-based contracts to develop and certify commercial spaceflight systems. The program is currently progressing toward a Critical Design Review in 2014 and a planned demonstration flight to the ISS in 2017. This audit is assessing NASA's management of its commercial crew program.

NASA's Efforts to Fully Utilize the U.S. Segment of the International Space Station

Completed in 2011, the ISS will be the centerpiece of NASA's low-Earth orbit activities through at least 2020. In 2005, Congress designated the U.S. segment of the ISS as a national laboratory. This audit is examining NASA's progress in maximizing use of this laboratory.

NASA's Development of the Multi-Purpose Crew Vehicle

NASA's 2010 Authorization Act led to changes in national space exploration priorities, program focus, and funding profiles. This audit will evaluate how NASA is managing development of the multi-purpose crew vehicle called for in the Act. It will also examine whether NASA has properly accounted for its use of Recovery Act funds on the Program.

NASA's Decision Process for Space Launch System Core Stage Testing

On April 24, 2012, NASA's Human Exploration and Operations Mission Directorate approved a plan to provide funding to refurbish the B-2 test stand at Stennis Space Center for testing the Space Launch System (SLS) core stage engines. Refurbishment of the test stand is expected to cost approximately \$357 million and take 4 years to complete. This audit will evaluate whether the decision to refurbish the test stand resulted in the best value for the taxpayer and best supported SLS and its associated projects.

Information Technology Security and Governance

NASA's portfolio of information technology (IT) assets includes more than 550 information systems that control spacecraft, collect and process scientific data, and enable NASA personnel to collaborate with colleagues around the world. Through audits and investigations, the OIG has identified systemic and recurring weaknesses in NASA's IT security program that adversely affect the Agency's ability to protect the information and information systems vital to its mission. Achieving the Agency's IT security goals will require sustained improvements in NASA's overarching IT management practices and governance. During this semiannual reporting period, we continued to work with NASA to improve its IT management practices.

NASA's Process for Acquiring Information Technology Security Assessment and Monitoring Tools

NASA's Office of the Chief Information Officer (OCIO) spends at least \$58 million annually on IT security, a portion of which is used to acquire and manage security assessment and monitoring tools.

We found that the Agency has not fully implemented a process for identifying its IT security assets. Because NASA does not have a process that captures, consolidates, and assesses IT security tool requirements across the Agency, centralized purchases of tools do not regularly occur. For example, our survey of IT security personnel at NASA Headquarters and all Centers showed that the Agency spent \$25.7 million on 242 separate purchases of IT security assessment and monitoring tools as of June 2012 with little or no coordination between IT security officials across Centers. This inability to consolidate requirements and centralize purchases limits NASA's efforts to gain efficiencies on critical IT investments.

To improve visibility over purchases of IT security assessment and monitoring tools, NASA could use two federally mandated internal management control processes: Capital Planning and Investment Control (CPIC) and Application Portfolio Management (APM). The CPIC process is intended to capture an agency's major IT investments and achieve cost savings by identifying and eliminating redundant purchases. The APM process organizes IT applications into relevant portfolio categories to enable performance assessments of individual assets and the portfolio as a whole.

In addition, NASA's Enterprise License Management Team (ELMT) evaluates requirements to determine whether cost savings can be achieved by consolidating IT software purchases.

We recommended that the Chief Information Officer (CIO) modify the CPIC process to capture detailed IT security requirements and re-establish the APM process to enable greater visibility over existing inventory and planned acquisition of IT assessment and monitoring tools. Furthermore, NASA should

consider routing the captured data acquired from the revised CPIC process to ELMT for review and potential consolidation of IT security tool purchases. Management concurred with all of our recommendations.

*Audit of NASA's IT Security Assessment and Monitoring Tools
(IG-13-006, March 18, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-006.pdf>

Fiscal Year 2012 Audit of NASA's Compliance with the Federal Information Security Management Act

This annual report, submitted as a memorandum from the Inspector General (IG) to the NASA Administrator, provides OIG's independent assessment of NASA's IT security posture. For fiscal year (FY) 2012, the OIG adopted a risk-based approach under which we reviewed a sample of 129 system components monitored by automated tools across NASA and performed a manual review of five mission systems (two Agency internal and three external information systems).

We found that NASA has established a program to address the challenges in each of the areas that the Office of Management and Budget identified for this year's Federal Information Security Management Act review:

- Continuous Monitoring Management
- Configuration Management
- Identity and Access Management
- Incident Response and Reporting
- Risk Management
- Security Training
- Plan of Action and Milestones
- Remote Access Management
- Contingency Planning
- Contractor Systems
- Security Capital Planning

However, we also found NASA needs to make more progress in addressing its continuous monitoring management, configuration management, and risk management issues.

*Federal Information Security Management Act: Fiscal Year 2012 Evaluation
(IG-13-001, October 10, 2012)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-001-summary.pdf>

Romanian National Arrested and Indicted

On January 17, 2013, a Romanian national was indicted in U.S. District Court for the Southern District of New York on multiple conspiracy counts. The Romanian national allegedly ran a “bulletproof hosting” service that enabled cyber criminals to distribute malicious software (malware) and conduct other sophisticated cybercrimes. Malware distributed by this hosting service has infected over one million computers worldwide, including computers belonging to NASA, causing tens of millions of dollars in losses to the affected individuals, businesses, and government entities. The NASA OIG is working jointly with the FBI on this investigation.

Ongoing Audit Work

NASA’s IT Governance

Federal law and NASA policy designate the NASA CIO as the official responsible for developing and implementing an Agency-wide IT security program. However, the CIO has limited ability to direct NASA’s Mission Directorates to fully implement CIO-recommended or mandated IT security programs. In addition, our past audit work has found that NASA’s IT governance structure fails to provide the visibility and oversight authority necessary to most effectively procure the Agency’s IT assets. This audit is examining NASA’s IT governance practices and developing recommendations for improvement.

NASA’s Progress in Adopting Cloud-Computing Technologies

Cloud computing offers the potential for significant cost savings through faster deployment of computing resources, a decreased need to buy hardware or rely on data centers, and enhanced collaboration capabilities. However, these benefits come with potential risks, such as loss or compromise of information. This audit is evaluating NASA’s efforts to adopt secure, cost-effective cloud-computing solutions.

Security of NASA’s Mobile Computing Devices

NASA’s employees use mobile devices, including smartphones and tablets, to connect with NASA networks. Mobile devices offer greater work flexibility but are vulnerable to compromises in data security. This audit is evaluating NASA’s oversight of mobile computing devices.

Financial Management

During this semiannual reporting period, the OIG and the independent external auditor continued to assess NASA's efforts to improve its financial management and make recommendations to assist the Agency in addressing weaknesses. In addition, OIG investigators continue to examine allegations of fraud and other misconduct related to NASA's finances.

NASA Receives Clean Opinion on FY 2012 Financial Statements

The Chief Financial Officers Act of 1990 requires the IG or an independent external auditor chosen by the IG to annually audit NASA's financial statements. The FY 2012 consolidated financial statement audit was performed by the independent public accounting firm PricewaterhouseCoopers (PwC), which issued an unqualified or "clean" opinion on November 15, 2012 (IG-13-003). An unqualified opinion means that NASA's financial statements present fairly, in all material respects, the financial position and results of its operations in conformity with generally accepted accounting principles. This is the second consecutive year NASA received an unqualified audit opinion. As part of its opinion, PwC identified a significant deficiency related to NASA's environmental liability estimation process.

PwC also provided NASA with a report on internal control and compliance with laws and regulations. PwC identified no instances of significant noncompliance with applicable laws and regulations, but did identify deficiencies of a lesser magnitude and reported them to the Chief Financial Officer (CFO) and CIO (IG-13-005). Finally, PwC provided an unqualified opinion on NASA's special-purpose financial statements (IG-13-004).

The Inspector General's transmittal letter and PwC's audit reports can be found in the Financials section of NASA's FY 2012 Agency Financial Report http://www.nasa.gov/pdf/707292main_FY12_AFR_121412_FINALv508.pdf

Audit of NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2012

The Improper Payments Information Act (IPIA) requires heads of Executive Branch agencies to annually review and identify programs and activities that may be susceptible to significant improper payments. For each susceptible program and activity, agencies must estimate the annual amount of improper payments and report those estimates to Congress. The Improper Payments Elimination and Recovery Act of 2010 (IPERA) amends IPIA by expanding the requirements for identifying, estimating, and reporting on susceptible programs and activities and includes a requirement that agencies conduct recapture audits for each program and activity with at least \$1 million in annual program outlays.

We reviewed whether NASA complied with the requirements of IPIA, as amended. In addition, we evaluated the completeness and accuracy of NASA's reporting of IPIA data, its performance in reducing and recapturing improper payments, and its implementation of recommendations we made in our 2011 IPIA audit.

We concluded that NASA complied with IPIA for fiscal year 2012; however, we also identified opportunities for improving NASA's methodology for its IPIA and recapture audit programs, as well as its annual reporting. With regard to recommendations we made in last year's improper payments audit, NASA is in the process of implementing corrective action to address four and has taken action we consider responsive to the other five.

In response to our prior recommendations, NASA now includes payments it makes to grantees and the Jet Propulsion Laboratory (JPL) in its IPIA review even though the Agency continues to exclude payments made by JPL to vendors and subrecipients. Further, NASA may have inaccurately assessed and assigned risk to certain programs due to incomplete data, a heavy reliance on materiality, and subjective assignment of risk by the IPIA contractor. In addition, when conducting recapture audits NASA did not include cost-type contracts, grants, and cooperative agreements and accordingly the audits were limited to 35 percent of the Agency's total disbursements. As a result, the Agency may be missing an opportunity to identify and recover a larger population of improper payments. Finally, we also identified errors and omissions in NASA's Agency Financial Report (AFR) that lead us to question whether NASA's reporting efforts are accurate and complete. Specifically, we noted errors in NASA's reporting of the disposition of recaptured funds and of overpayments recaptured from other sources.

To improve the accuracy and completeness of NASA's AFR reporting we recommended that the Chief Financial Officer establish a process to collect data related to reporting on the disposition of recaptured funds, refine the existing process related to the reporting of overpayments recaptured outside of the recapture audit process, and develop and disseminate guidance on these processes. The CFO concurred with our recommendations.

NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2012 (March 14, 2013)

<http://oig.nasa.gov/audits/reports/FY13/IG-13-011.pdf>

Purchase Card Investigation Results in Recommendations for Improvement

In 2012, we investigated allegations that a NASA employee was misusing a government purchase card. The employee generated suspicion by shipping more than \$280,000 in purchases to her home rather than to the Kennedy Space Center where she was employed. We found no wrongdoing by the employee but instead we found the employee had directed the purchases to her home because it took so long to receive packages through the normal delivery channels. As a result of our investigation, we made several recommendations to improve the delivery process at Kennedy Space Center.

Ongoing Audit Work

Audit of Fiscal Years 2011 and 2012 NASA-Sponsored Conferences

Senate Report 112-78, adopted as part of the Conference Report to the Consolidated and Further Continuing Appropriations Act, 2012 (Public Law 112-55), requires OIGs to audit expenses incurred for agency-sponsored conferences with costs exceeding \$20,000. This audit is assessing NASA's compliance with Federal and Agency requirements for planning and conducting conferences and for reporting associated costs.

Audit of NASA's FY 2013 Financial Statements

The OIG is overseeing NASA's FY 2013 consolidated financial statement audit by the independent public accounting firm PwC.

Other Matters

NASA's Compliance with Federal Export Controls

In a January 29, 2013, letter to Congress, we summarized our work over the previous year relating to NASA's compliance with Federal export control laws. Among the products discussed were a series of audits examining the Agency's security controls for its IT systems, many of which contain data subject to export control laws. In addition, we described several investigations involving the potentially unlawful disclosure of sensitive information.

The Inspector General's Annual Federal Export Control Compliance Letter to Congress (January 29, 2013)

[http://oig.nasa.gov/readingRoom/LettertoCongress-ReviewofNASA'sCompliancewithFederalExportControlLaws\(NA\).pdf](http://oig.nasa.gov/readingRoom/LettertoCongress-ReviewofNASA'sCompliancewithFederalExportControlLaws(NA).pdf)

Former Langley Exchange Employee Debarred for Theft

A former finance and account officer for the Langley Research Center Employee Exchange was debarred from doing business with the Federal Government for 3 years after pleading guilty to embezzling \$199,173 in funds from the Exchange checking account.

Former Contractor Pleads Guilty to Theft

In March 2013, a former NASA contractor employee at Goddard Space Flight Center pleaded guilty to stealing tools and aluminum scaffolding belonging to NASA. An OIG investigation found that from October 2011 through November 2012 the contractor stole tools and scaffolding from Goddard, which he sold to pawnshops for cash. Over the course of the scheme, he made more than 60 visits to pawnshops throughout Maryland and received at least \$16,974 from selling government-owned materials. The government has recovered \$29,736 worth of equipment. As part of his plea agreement, the contractor employee was ordered to pay restitution of \$11,574 to the U.S. government; \$4,461 to a pawn shop in Annapolis, Maryland; and forfeit at least \$29,413. He faces a maximum of 10 years in prison, and will be sentenced in July 2013.

Former NASA Contractor Employee Charged

In December 2012, a former contractor employee of the Marshall Space Flight Center was charged in U.S. District Court for the Northern District of Alabama with theft of personal property following a joint investigation by NASA security personnel and the OIG. The employee admitted to stealing cash from the desks of Center employees.

NASA Employee Sentenced for Forgery

In February 2013, a public affairs specialist for the Kennedy Space Center was sentenced in Florida State court to 3 years' probation and 100 hours of community service and ordered to pay \$446 in fines for submitting forged documents to NASA. NASA security had suspended the employee's driving privileges on the Center after the State of Florida revoked her driver's license. Thereafter, the specialist submitted forged temporary driving permits to NASA security as proof that the State had reinstated her license.

NASA'S TOP MANAGEMENT AND PERFORMANCE CHALLENGES

As required by the Reports Consolidation Act of 2000, the OIG annually develops a report identifying the most serious management and performance challenges facing NASA. In deciding whether to identify an issue as a top challenge, we consider the significance of the issue in relation to the Agency's mission; its susceptibility to fraud, waste, and abuse; whether the underlying causes are systemic; and the Agency's progress in addressing the issue. In our 2012 report, we identified the following issues as the top management and performance challenges facing NASA:

1. Future of U.S. Human Space Flight

NASA's current spaceflight activities are focused on maximizing the productivity of the ISS, encouraging development of commercial companies seeking to provide cargo and crew transportation to the ISS, and developing new systems and technologies for exploration beyond low-Earth orbit. Moving each of these programs forward in a "flat" or diminishing budget environment remains a significant challenge for the Agency.

Although NASA is conducting studies to see if the ISS can safely be inhabited and productively utilized until 2028, currently the facility is scheduled to be retired in 2020. Whatever the Station's remaining life span, a major focus for the Agency is ensuring the facility is put to the most effective use. One of the most significant factors affecting utilization is the amount of time the crew can commit to research. Although NASA increased average crew research time from 23.9 hours per week in 2010 to 35 hours per week in 2012, the Agency is unlikely to be able to raise that figure given current constraints on crew size. The ISS was designed to support a seven-member crew. However, because at present the only means of transportation to and from the ISS is the Russian Soyuz with its 3-person capacity, only six crew members can safely be aboard at one time to allow for evacuation in case of an emergency. This limitation on crew size will exist until at least 2017, the earliest date at which NASA's commercial partners are expected to be ready to fly manned, higher-capacity missions to the ISS.

The other limitation to full utilization is the ability to transport supplies to and from the ISS. One of NASA's commercial partners, SpaceX, has flown two resupply missions to the ISS and the other, Orbital, is scheduled to fly its first mission in September 2013. However, only SpaceX's Dragon spacecraft is capable of returning cargo and research experiments to Earth.

As we have previously reported, NASA faces a series of challenges in certifying and acquiring crew transportation services from commercial entities: (1) modifying the Agency's existing safety and human-rating requirements for commercially developed systems; (2) managing its acquisition strategy for commercial crew transportation services; (3) implementing the appropriate insight/oversight model for commercial partner vehicle development; (4) relying on an emerging industry and uncertain market conditions to achieve cost savings; and (5) managing the relationship between commercial partners, the Federal Aviation Administration, and NASA. Although challenges remain, NASA has made progress in each of these areas.

In addition to its commercial crew and cargo efforts, NASA is developing the SLS to transport astronauts beyond Earth's orbit. Developing all of these capabilities simultaneously continues to present significant management challenges for NASA leaders. In particular, establishing realistic long-term budgets for the SLS, associated launch vehicles, and ground support programs is a significant challenge. As evidenced by an August 2011 independent cost assessment, NASA's estimates are reasonable for near-term budget planning but do not support establishment of long-term budgets or detailed baselines.

2. Project Management

In 2012, the OIG conducted an extensive review of NASA's project-management practices to identify the primary challenges to the Agency's achieving its cost, schedule, and performance goals. The report identified four factors that appear to present the greatest challenges to successful project outcomes: (1) NASA's culture of optimism, (2) underestimating technical complexity, (3) funding instability, and (4) limited opportunities for project managers' development.

Although NASA has made positive strides to improve project outcomes, the OIG determined that the Agency needs a "unity of effort" – including strong, consistent, and sustained leadership by the President, Congress, and Agency managers – to achieve more consistent fidelity to cost and performance goals.

For their part, NASA leaders must temper the Agency's culture of optimism by requiring realistic cost and schedule estimates, well-defined and stable requirements, and mature technologies early in project development. In addition, they must ensure that funding is adequate and properly phased and that funding instability is identified as a risk and accounted for in a project's risk mitigation strategies. Finally, they must be willing to take remedial action when these critical project-management elements are not present.

3. Infrastructure and Facilities Management

NASA is the ninth largest Federal Government property holder, controlling a network of approximately 4,900 buildings and facilities that support Agency research, development, and flight activities. The 2010 Authorization Act requires NASA to develop a strategy for the most efficient retention, sizing, and distribution of facilities and other infrastructure consistent with the Agency's mission. In a time of constrained Federal budgets and transition from the Space Shuttle era, successfully implementing this directive is among the most pressing challenges facing Agency management.

NASA officials report that more than 80 percent of the Agency's facilities are 40 or more years old and beyond their design life. Under its current policy, NASA is required to maintain these facilities either in an operational status or, if they are not being used, in sufficient condition that they do not pose a safety hazard. However, NASA has not been able to fully fund required maintenance costs for these facilities and in 2012 estimated its deferred maintenance costs at \$2.33 billion.

The challenge for NASA leadership in this area is to address the backlog of essential maintenance projects so that facilities will be available when needed to support future missions. Continuing to delay essential maintenance projects poses a threat to the safety of personnel and equipment and likely will result in higher repair costs in the future.

NASA could reduce its facilities maintenance costs by reducing the amount of underutilized and duplicative infrastructures in its inventory. The challenge for NASA leadership in this area is to reduce unneeded and duplicative property in light of the key missions, technologies, and programs the Agency intends to pursue over the next 20 to 30 years. Fundamental to the success of any such effort will be improving the quality of the Agency's data regarding its real property assets.

Leasing offers the Agency another means to help address the maintenance costs of its aging and underutilized facilities. However, Federal law and policy prohibits NASA from leasing facilities for which it has no current or future mission-related use. For these facilities, NASA should consider other options, such as demolition or transferring the property to the General Services Administration for sale or transfer to another entity.

4. Acquisition and Contract Management

NASA spent approximately 81 percent of its \$18.5 billion FY 2011 budget on contracts to procure goods and services and provide funding to grant and award recipients. Given the large amount NASA spends on these awards, managers are continually challenged to ensure that the Agency pays contractors and grantees in accordance with the terms of their agreements and receives fair value for its money. During the past year, the OIG continued to uncover fraud and overcharging by NASA contractors. For example, as a result of our investigative work a contractor agreed to pay \$3.3 million to settle allegations that it included unallowable costs in calculating overhead rates and another contractor agreed to pay \$617,789 to settle allegations that it submitted inflated invoices for engineering and technical services.

Similarly, the OIG's audit work identified weaknesses in NASA contract management. For example, we examined whether research funded by NASA Research Announcements (NRAs) advanced the Agency's aeronautics research goals and whether award costs were allowable and properly supported. Although we found that NRA awards advanced the Agency's aeronautics research goals, we also found that 18 of the 43 awards we reviewed (42 percent) contained approximately \$2.4 million in questioned costs. Based on our sample results, we estimated that the NRA awards made by the Aeronautics Research Mission Directorate from May 2006 through January 2011 contained \$25.2 million in unallowable or unsupported costs.

One area in which NASA continues to be particularly challenged with regard to safeguarding against fraud is its Small Business Innovation Research (SBIR) program. NASA awarded approximately \$190 million to small businesses under this program during FY 2011 to stimulate technological innovation, increase participation by small businesses in federally funded research and development, and increase private sector commercialization of innovations derived from federally funded research and development efforts. In multiple investigations and audits over the years, the OIG has identified significant fraud, waste, and abuse in NASA's SBIR program. For example, this past year an OIG investigation resulted in the suspension of a technology firm and two of its principals from participation in Federal procurements for failing to disclose that the principals were primarily employed by a university when they submitted proposals to participate in the NASA and Navy SBIR programs.

With respect to grant management, NASA faces the ongoing challenge of ensuring that the approximately \$500 million in grants it awarded in 2011 are administered appropriately and that recipients are accomplishing stated goals. Consequently, we will continue to focus resources in this area as the Agency works to enhance its grant management processes. Over the past 5 years, the OIG conducted 40 grant fraud investigations resulting in 3 prosecutions and \$12.5 million in restitution and recoveries.

5. Information Technology Security and Governance

NASA's portfolio of IT assets includes more than 550 information systems that control spacecraft, collect and process scientific data, and enable NASA personnel to collaborate with colleagues around the world. Overall, NASA spends more than \$1.5 billion annually on its IT-related activities, from which \$58 million is dedicated to IT security. The Agency's systems house sensitive information that, if lost or stolen, could result in significant financial loss, adversely affect national security, or significantly impair our Nation's competitive technological advantage.

The OIG has identified systemic and recurring weaknesses in NASA's IT security program that adversely impact the Agency's ability to protect the information and information systems vital to its mission. For example, the Agency continues to experience challenges as it moves from a compliance-focused "snapshot" approach for measuring the security of its IT systems to using tools and techniques to perform real-time, security control monitoring. Although NASA has made progress in implementing a continuous monitoring program, the Agency needs to:

- create and maintain a complete, up-to-date record of IT components connected to Agency networks,
- define the security configuration baselines that are required for its system components and develop an effective means of assessing compliance with those baselines, and
- use best practices for vulnerability management on all its IT systems.

In addition, NASA is a frequent target of a sophisticated form of cyber attack known as advanced persistent threats (APTs). An August 2012 OIG audit of NASA's Security Operations Center found that NASA's computer systems and networks remain at high risk for loss of sensitive data because the Agency's network firewalls and the Security Operations Center's intrusion detection capability are ineffective for either preventing or detecting APTs from bypassing the Agency's firewalls and perimeter defenses.

Achieving the Agency's IT security goals will require sustained improvements in its overarching IT management practices and governance. In particular, the CIO's inability to ensure that NASA's mission computer networks implement key IT security controls continues to put these critical IT assets at risk of compromise. To illustrate, the Agency has not yet implemented two recommendations from a May 2010 OIG audit report to monitor its mission networks for the presence of critical software patches and technical vulnerabilities.

*2012 Report on NASA's Top Management and Performance Challenges
(November 8, 2012)*

<http://oig.nasa.gov/NASA2012ManagementChallenges.pdf>

CONGRESSIONAL TESTIMONY

Inspector General Martin testified before subcommittees of the U.S. House of Representatives twice during this reporting period. On February 28, 2013, he appeared before the Committee on Science, Space, and Technology's Subcommittee on Oversight, while on March 13, 2013, he appeared before the Subcommittee on Commerce, Justice, Science and Related Agencies. At both appearances, the IG was asked to focus his remarks on the top management and performance challenges facing NASA, including the challenges described in the OIG's November 2012 report to the NASA Administrator and Congress.

The IG noted that declining budgets and fiscal uncertainties present the most significant external challenge to NASA's ability to successfully move forward on its many projects and programs. In his oral statements, he highlighted three issues for the Committee: (1) project management, (2) information technology security, and (3) NASA's aging infrastructure. In addition, he discussed several ongoing OIG reviews intended to help NASA address its top challenges, including an audit examining NASA's efforts to develop the Orion Multi-Purpose Crew Vehicle and a review of NASA's IT governance structure.

IG Statements: Top Challenges for Science Agencies: Report from Inspectors General – Part 1

http://oig.nasa.gov/congressional/HouseHearing_02_28_2013.pdf

IG Statements: Oversight of the National Aeronautics and Space Administration

http://oig.nasa.gov/congressional/FinalWrittenStatement_03_13_2013.pdf

LEGAL ISSUES

Whistleblower Protection Ombudsman

The Whistleblower Protection Enhancement Act required agency IGs to appoint an ombudsperson to educate employees and applicants for employment about their rights under federal whistleblower protection laws. The Counsel to the Inspector General will serve as ombudsman for the NASA OIG.

Individuals who have questions about whistleblower rights and remedies can contact the NASA Whistleblower Protection Ombudsman at (202) 358-2575 or by e-mail at HQ-OIG-Counsel@mail.nasa.gov

Contractor Employee Whistleblower Protection

In past semiannual reports, we have reported on our efforts to harmonize the whistleblower protections provided to employees of Department of Defense contractors with those of NASA contractors. In the National Defense Authorization Act for Fiscal Year 2013, Congress enacted and the President signed into law a provision that accomplishes this objective. The new statute provides protection for complainants who raise claims that reasonably evidence gross mismanagement of a NASA contract or grant; gross waste of NASA funds; an abuse of authority relating to a NASA contract or grant; a violation of law, rule, or regulation related to a NASA contract (including the competition for or negotiation of a contract) or grant; or a substantial and specific danger to public health or safety.

REGULATORY REVIEW

During this reporting period, the OIG reviewed and commented on 13 NASA directives and regulations. The following regulations were of particular interest to the OIG.

NASA Procedural Requirements (NPR) 9640 Draft 1, Settling Claims Against NASA

This NPR provides financial management requirements relating to the settlement of claims against the United States. The OIG made recommendations intended to ensure that false or fraudulent claims are referred to the OIG in accordance with NASA Policy Directive 9800.1, *NASA Office of Inspector General Programs*.

NASA Policy Directive (NPD) 9710.1W, Delegation of Authority to Authorize or Approve Temporary Duty Travel on Official Business and Related Matters

This NPD sets forth the delegations of authority from the Administrator to subordinate personnel to “authorize” (pre-trip) and “approve” (post-trip) temporary duty travel of NASA employees. The purpose of the changes to this NPD was to amend the list of officials authorized to self-approve their travel authorizations and/or travel vouchers. These changes were the Agency’s response to issues raised in IG Report A-11-012-00, *Audit of NASA Purchase and Travel Card Programs* and decisions made in Executive Council Decision 2012-02-002, *Delegation of Authority - Travel Self-Authorization/Self-Approval*. The OIG reviewed the revisions to the draft NPD and was still concerned that the number of self-approvers was too high. NASA subsequently agreed to further reduce the number of several approvers consistent with our recommendation.

NPR 100.1A, NASA Protective Services Program Requirements

This revised NPR prescribes NASA protective services procedural requirements for NASA Centers and component facilities in executing the NASA security program to protect people, property, operations, and classified national security information. As part of our review, we questioned the authority for NASA Special Agents employed by the Office of Protective Services (OPS) to fly while armed, as well as the authority of OPS to issue retired Law Enforcement Officer credentials to retired agents since both actions flow from the premise that OPS personnel are Federal law enforcement officers. We question whether that is the case, and we recommended that OPS seek General Counsel review of both issues.

OUTREACH ACTIVITIES

During this reporting period, the OIG coordinated with the Agency and other OIGs and Federal agencies on a variety of outreach activities.

- Representatives from the OIG Office of Audits (OA) participated in an effort by the Grant Reform Working Group to provide feedback to the Office of Management and Budget on revisions to a variety of the circulars that govern federal grant programs.
- In February 2013, OA's Director of Mission Support participated in a working group discussion on coordinating oversight by the OIG community and the Recovery Accountability and Transparency Board (RAT Board) of funding provided through the Disaster Relief Appropriations Act of 2013 (P.L. 113-2).
- OA's Financial Management Directorate participated in monthly meetings of the Financial Statement Audit Network to discuss current issues in financial management.
- The Assistant Inspector General for Audits (AIGA) and OA's Information Technology Director and Project Manager participated in the National Academy of Public Administration's Government Cybersecurity and Data Protection Evaluation Capability Maturity Model Framework development meetings. The group discussed how use of the model framework will encourage agencies to define their risk profiles in a strategic, enterprise-wide manner.
- In January 2013, OA's Statistician and Data Mining Specialist served on a Council of the Inspectors General on Integrity and Efficiency (CIGIE) working group to evaluate the acquisition of the RAT Board's Recovery Operations Center by CIGIE.
- In October 2012, a member of OA's Financial Management Directorate attended the Single Audit Roundtable where representatives from the American Institute of Certified Public Accountants, the Office of Management and Budget, 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.
- OA's Statistician and Data Mining Specialist developed the next generation analytic data modeling tool to help OIG auditors and investigators identify fraud in the Small Business Innovation Research and Small Business Technology Transfer Programs.

- The AIGA and OA's Science and Aeronautics Research Program Director coordinated with the Department of Defense OIG to establish a Memorandum of Agreement that will allow the agencies to share personnel with particular subject matter expertise (e.g., explosive safety, environmental and computer sciences, and risk management).
- The Office of Personnel Management and NASA OIG's Office of Human Resources – with assistance from CIGIE's Training Institute – sponsored three 3-day training sessions focusing on Human Resources Evaluation for staff of the OIG Human Resources community.
- The NASA OIG Human Resources Director participated in an effort to establish a peer review system for OIG human resource operations similar to the reviews currently conducted of OIG investigative and audit functions. A final proposal for establishing the system was presented to the CIGIE Professional Development Committee in November 2012.
- In October 2012 and February 2013 respectively, the Assistant Inspector General for Management and Planning participated on panels at the Board of Contract Appeals Bar Association annual meeting and a meeting of the ABA Public Contract Law Section Bid Protest Committee.

AWARDS

CIGIE Awards Ceremony

CIGIE held its 15th Annual Awards Ceremony on October 16, 2012, to recognize the work of OIG employees across the Federal Government.

OA's Science and Aeronautics Research Directorate received two Awards for Excellence: for exceptional performance in identifying inefficiencies in NASA's process for transferring technology and for identifying significant technical, schedule, and fiscal challenges NASA needed to resolve prior to launch of the \$2.5 billion Mars Science Laboratory.



Back row: IG Paul K. Martin, Gerardo Saucedo, Jiang Yun Lu, Tiffany Xu, AIGA Jim Morrison.

Front row: Simon Chan, Ron Yarborough, Stephen Siu, Raymond Tolomeo.

An OI team received an Award for Excellence in recognition of a fraud and national security investigation that resulted in convictions for espionage and fraud of a former senior NASA scientist who conspired to defraud the United States and attempted to provide classified information to a person he believed to be an Israeli intelligence officer.



Back row: IG Martin, Sean Zadig, Paul Arnold, Robert Steinau, Michael Ball, AIGI Kevin H. Winters.

Front row: Frank Gore, Haley Hawkins, Anthony Pavlik, Elaine Mylod, Defense Contract Audit Agency Investigative Auditor.

The 2012 Sentner Award for Dedication and Courage was awarded to an OI team for the investigation and apprehension of a child-pornography suspect. The team was recognized for uncommon selflessness and dedication to duty involving life-threatening violence during service of a search warrant.



Left to right: IG Martin, Sean Zadig, Michael Ball, Jamease Todd, Robert Steinau, AIGI Kevin H. Winters.

The Office of Management and Planning Information Technology Services Team received an Award for Excellence in recognition of their delivery of high quality, innovative, and cost-effective information technology solutions in support of the NASA OIG and the larger CIGIE community.



Left to right: AIG Hugh Hurwitz, IG Martin, Charles Cephas, Steve Clevenger, William Todd, James Akers.

On February 20, 2013, AIGI Kevin H. Winters presented Assistant United States Attorney (AUSA) Craig P. Wittman with an award in recognition of his contributions to and outstanding support of NASA OIG efforts to recover government money lost to fraud and other misconduct.

Left to right: U.S. Attorney Neil H. McBride, Eastern District of Virginia; Assistant U.S. Attorney Craig P. Wittman, Civil Division; AIGI Kevin H. Winters; SAC Michael W. Sonntag; Managing Assistant U.S. Attorney Robert J. Seidel, Jr.



Certificates of Appreciation

The Inspector General visited the Johnson Space Center (JSC) in March 2013 and presented letters of appreciation to current and former Johnson personnel who have assisted the OIG on cases involving the recovery of lunar material. Recipients included personnel from the lunar curation office, the office of the Center Director, and the Chief Counsel's office.



Left to right: IG Martin, Lunar Curator (retired) Dr. Gary Lofgren, JSC Director Ellen Ochoa.



Left to right: IG Martin, Executive Assistant Diana Norman, JSC Director Ochoa.



Left to right: IG Martin, Attorney Rebecca Bresnik, JSC Director Ochoa.

Appendixes

A.	Inspector General Act Reporting Requirements.....	47
B.	Statistical Information	
	Table 1: Audit Products and Impact	48
	Table 2: Prior Audit Recommendations Yet to Be Implemented	50
	Table 3: Audits with Questioned Costs.....	52
	Table 4: Audits with Recommendations that Funds Be Put to Better Use.....	52
	Table 5: Status of A-133 Findings and Questioned Costs Related to NASA Awards.....	52
	Table 6: Legal Activities and Reviews	53
	Table 7: Office of Investigations Activities.....	53
	Table 8: DCAA Audit Reports with Questioned Costs and Recommendations that Funds Be Put to Better Use; Amounts Agreed To	55
C.	Peer Reviews	56
D.	Glossary and Acronyms.....	57
E.	NASA OIG Offices of Audits and Investigations.....	61

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	37
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	5–29
Section 5(a)(2)	Recommendations for Corrective Actions	5–29
Section 5(a)(3)	Prior Significant Audit Recommendations Yet to Be Implemented	53–54
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	51–52
Section 5(a)(7)	Summary of Significant Audits and Investigations	5–29
Section 5(a)(8)	Total Number of Reports and Total Dollar Value for Audits with Questioned Costs	55
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	56
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
Section 5(a)(14)	Peer Review Conducted by Another OIG	60
Section 5(a)(15)	Outstanding Recommendations from Peer Reviews of the NASA OIG	None
Section 5(a)(16)	Outstanding Recommendations from Peer Reviews Conducted by the NASA OIG	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 this information each November for the previous fiscal year. For the period ending September 30, 2012, the receivables due from the public totaled \$1,286,000, of which \$205,000 is delinquent. The amount written off as uncollectible for the period October 1, 2011, through September 30, 2012, was \$727,000.

Appendix B. Statistical Information

Table 1: Audit Products and Impact

During the period October 1, 2012, through March 31, 2013, the Office of Audits issued 13 products.

REPORT NO./ DATE ISSUED	TITLE	IMPACT
Audit Area: Infrastructure and Facilities Management		
IG-13-008 02/12/13	NASA's Efforts to Reduce Unneeded Infrastructure and Facilities	Identified issues that NASA must address to manage the Agency's underutilized infrastructure and facilities.
IG-13-007 02/14/13	NASA's Environmental Remediation Efforts at the Santa Susana Field Laboratory	Identified issues that NASA must address to effectively utilize its limited environmental remediation program resources.
IG-13-013 03/27/13	Review of NASA's Explosives Safety Program	Identified internal control deficiencies that need improvement to protect NASA personnel, property, and the public from the potentially catastrophic effects of energetic materials.
Audit Area: Acquisition and Project Management		
IG-13-009 02/21/13	Review of Mars Atmosphere and Volatile Evolution (MAVEN) Project	Recognized the management, initiatives, and tools used to successfully control Project cost and schedule and encouraged NASA to capture and share lesson learned.
IG-13-010 02/28/13	Review of NASA's Internal Controls for Awards with Small Business	Recognized and pointed out the fraud potential in the Government-wide self-certification process and referred the issue to the Government Accountability Office and the Small Business Administration for further consideration.
Audit Area: Information Technology Security and Governance		
IG-13-001 10/10/12	Federal Information Security Management Act: Fiscal Year 2012 Evaluation	Verified progress and identified areas for improvements in NASA's IT security controls.
IG-13-006 03/18/13	NASA's Process for Acquiring Information Technology Security Assessment and Monitoring Tools	Assessed NASA's process for acquiring IT assessment and monitoring tools and identified opportunities to capitalize on efficiencies and leverage purchasing power on critical IT security investments.

Table 1: Audit Products and Impact (continued)

REPORT NO./ DATE ISSUED	TITLE	IMPACT
Audit Area: Financial Management		
IG-13-002 10/25/12	Transmittal of the Final Report, "NASA Network Penetration Testing Report," Prepared by PricewaterhouseCoopers, in Connection with the Audit of NASA's Fiscal Year 2012 Financial Statements	Improvements in the security of the Agency's financial systems.
IG-13-003 11/15/12	Audit of the National Aeronautics and Space Administration's Fiscal Year 2012 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-13-004 11/16/12	FY 2012 NASA Special-Purpose Financial Statement Audit (IG Transmittal Letter and IPA Report)	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.
IG-13-005 12/12/12	FY 2012 Financial Statement Audit Management Letter	Improvements in the effectiveness of the controls over financial reporting and the information technology control environment.
IG-13-011 03/14/13	Audit of NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2012	Identified specific areas of focus to ensure the Agency's compliance with the Improper Payments Information Act of 2002 and the Improper Payments Elimination and Recovery Act of 2010.
Audit Area: Other Audits		
No number 01/29/13	NASA's Compliance with Federal Export Controls	Notified Congress of security weaknesses that may affect NASA's compliance with export control laws

Table 2: Prior Audit Recommendations Yet to Be Implemented

As shown in Table 2, 77 of 133 recommendations, from 23 audit reports, remain open. Of these open recommendations, 25 are from 6 reports issued during the last semiannual reporting period. The oldest open recommendation is from FY 2009.

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-12-019 8/3/12	Audit of NASA Grant Awarded to HudsonAlpha Institute for Biotechnology	9/20/2012	4	4	11/23/2013
IG-12-018 7/26/12	Audit of NASA Grants Awarded to the Philadelphia College Opportunity Resources for Education	7/26/2012	5	3	4/30/2013
IG-12-016 6/22/12	Audit of NASA Grants Awarded to the Alabama Space Science Exhibit Commission's U.S. Space and Rocket Center	6/22/2012	1	0	8/1/2013
Audit Area: Infrastructure and Facilities Management					
IG-12-020 8/9/12	NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices	8/9/2012	8	0	9/30/2013
Audit Area: Information Technology Security and Governance					
IG-12-017 8/7/12	Review of NASA's Computer Security Incident Detection and Handling Capability	8/7/2012	3	0	9/30/2014
Audit Area: Financial Management					
IG-12-015 5/1/12	NASA's Efforts to Identify, Report, and Recapture Improper Payments	7/26/2012	4	5	11/30/2013
REPORTED IN PREVIOUS SEMIANNUAL REPORTS					
Audit Area: Acquisition and Project Management					
IG-12-013 3/1/12	Audit of NASA's Process for Transferring Technology to the Government and Private Sector	3/1/2012	2	4	9/3/2013
IG-12-012 3/6/12	Review of NASA's Lessons Learned Information System	3/6/2012	3	1	10/31/2013
IG-12-009-R 2/2/12	NASA's Management of Small Business Innovation Research and Small Business Technology Transfer Contracts Funded by the Recovery Act (Redacted)	2/2/2012	3	2	3/31/2013 ¹
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	8/31/2013

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

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

REPORT NO./ DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
Audit Area: Space Operations and Exploration					
IG-11-016 2/17/11	Preparing for the Space Shuttle Program's Retirement: Review of NASA's Controls over Public Sales of Space Shuttle Property	3/15/2011	4	3	6/15/2013
Audit Area: Infrastructure and Facilities Management					
IG-12-008 12/19/11	NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Master Planning	12/19/2011	3	0	9/30/2013
IG-11-024 8/4/11	NASA Infrastructure and Facilities: Assessment of Data Used to Manage Real Property Assets	8/4/2011	1	2	6/30/2013
Audit Area: Information Technology Security and Governance					
IG-12-006 12/5/11	NASA Faces Significant Challenges in Transitioning to a Continuous Monitoring Approach for Its Information Technology Systems	12/5/2011	7	0	3/29/2013 ²
IG-11-017 3/28/11	Inadequate Security Practices Expose Key NASA Network to Cyber Attack	3/28/2011	1	2	8/30/2013
IG-10-024 9/16/10	Review of NASA's Management and Oversight of Its Information Technology Security Program	9/16/2010	2	1	6/29/2013
IG-10-019 9/14/10	Audit of NASA's Efforts to Continuously Monitor Critical Information Technology Security Controls	9/14/2010	2	0	9/30/2013
IG-10-013 5/13/10	Review of the Information Technology Security of [a NASA Computer Network]	5/13/2010	2	0	9/30/2013
IG-10-013-a 7/1/10	Addendum				
Audit Area: Financial Management					
IG-12-010 2/16/12	Audit of NASA's Purchase and Travel Card Programs	8/31/12	6	9	5/1/2013
Audit Area: Other					
IG-11-026 9/12/11	NASA's Grant Administration and Management	3/8/2012	5	4	8/1/2013
IG-11-023 8/10/11	NASA's Payments for Academic Training and Degrees	10/27/2011	6	0	9/30/2013
IG-11-004 12/13/10	Review of the Jet Propulsion Laboratory's Occupational Safety Program	1/18/2011	3	12	10/31/2013
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	6/30/2013

²The 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	2	\$261,487
Issued during period	0	\$0
Needing management decision during period	2	\$261,487
Management decision made during period		
Amounts agreed to by management	2	\$261,487
Amounts not agreed to by management	0	
No management decision at end of period		
Less than 6 months old	0	n/a
More than 6 months old	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	n/a
Issued during period	0	n/a
Needing management decision during period	0	n/a
Management decision made during period		
Amounts agreed to by management	0	n/a
Amounts not agreed to by management	0	
No management decision at end of period		
Less than 6 months old	0	n/a
More than 6 months old	0	0

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

Total audits reviewed		13
Audits with findings		13
Findings and Questioned Costs		
	NUMBER OF FINDINGS	QUESTIONED COSTS
Management decisions pending, beginning of reporting period	299	\$18,451,677
Findings added during the reporting period	22	\$365,955
Management decision made during reporting period		
Agreed to by management	(11)	(\$2,092)
Not agreed to by management	(22)	\$2,511,795
Management decisions pending, end of reporting period	288	\$16,303,745

* Office of Management and Budget 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

Freedom of Information Act matters	9
Appeals	0
Inspector General subpoenas issued	74
Regulations reviewed	13

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	44	7	6	14	71
All others	48	14	3	75	140
Total	92	21	9	89	211

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 noncriminal 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 ¹	30
---	----

¹ 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	90
Full criminal/civil investigations	98
Administrative investigations	43
Total	231

d. Qui Tam¹ Investigations²

Opened this reporting period ¹	1
Pending at end of reporting period ²	10

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.

e. Judicial Actions

Cases referred	76
Indictments/criminal information	13
Convictions/plea bargains	10
Sentencing	4
Civil settlements/judgments	9

Table 7: Office of Investigations Activities (continued)**f. Administrative Actions**

Recommendations to NASA management for disciplinary action		16
Involving a NASA employee	11	
Involving a contractor employee	3	
Involving a contractor firm	1	
Other	1	
Administrative/disciplinary actions taken		21
Against a NASA employee	8	
Against a contractor employee	3	
Against a contractor firm	-	
Procedural change implemented	10	
Recommendations to NASA management on program improvements		8
Matters of procedure	6	
Safety issues or concerns	2	
Referrals to NASA management for review and response		12
Referrals to NASA management – information only		11
Referrals to the Office of Audits		13
Referrals to Security or other agencies		12
Suspensions or debarments from Government contracting		14
Involving an individual	6	
Involving a contractor firm	8	

g. Investigative Receivables and Recoveries

Judicial	\$24,212,718	
Administrative ¹	\$1,273,474	
Total	\$25,486,192	
Total to NASA		\$6,251,009

¹ 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 38 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; Amounts Agreed To^{1,2}

	AMOUNTS IN ISSUED REPORTS	AMOUNTS AGREED TO ³
Questioned costs	\$5,460,000	\$6,374,000
Funds to be put to better use	\$1,182,000	\$12,480,000

¹ This data is provided to the NASA Office of Inspector General 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 is subject to change based on subsequent DCAA authentication.

² The data presented does 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. Peer Reviews

The Dodd-Frank Wall Street Reform and Consumer Protection Act requires Offices of Inspector General (OIG) to include in their semiannual reports any peer review results they provided or received during the relevant reporting period. Peer reviews are required every 3 years. In compliance with the Act, we provide the following information.

Office of Audits

No external peer reviews were conducted of or by the Office of Audit during this semiannual period. The date of the last external peer review of the NASA OIG was September 26, 2012, and was conducted by the Department of Commerce OIG. NASA OIG received a peer review rating of pass. There are no outstanding recommendations from this external peer review.

No external peer reviews of another federal audit organization were conducted by our office during this semiannual reporting period. There are no outstanding recommendations from the previous peer review conducted by our office. That peer review was conducted on the Small Business Administration OIG's audit organization and was completed September 27, 2012.

Office of Investigations

No external peer reviews were conducted of or by the Office of Investigations during this semiannual period. In November 2011, the Federal Deposit Insurance Corporation's OIG reviewed NASA OIG and found our office to be in compliance with all relevant guidelines. There are no unaddressed recommendations outstanding from this review.

Appendix D. 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 non-court 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 Office of the Inspector General (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 Inspector General 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 Inspector General Act of 1978 definition). A cost that is questioned by 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

AIGA	Assistant Inspector General of Audits
AIGI	Assistant Inspector General of Investigations
AIGMP	Assistant Inspector General of Management and Planning
APM	Application Portfolio Management
APT	Advanced Persistent Threats
CFO	Chief Financial Officer
CIGIE	Council of the Inspectors General on Integrity and Efficiency
CIO	Chief Information Officer
CPIC	Capital Planning and Investment Control
DCAA	Defense Contract Audit Agency
ELMT	Enterprise License Management Team
ESO	Explosive Safety Officer
FY	Fiscal Year
IG	Inspector General
IPERA	Improper Payments Elimination and Recovery Act of 2010
IPIA	Improper Payments Information Act
ISS	International Space Station
IT	Information Technology
JPL	Jet Propulsion Laboratory
JSC	Johnson Space Center
MAVEN	Mars Atmosphere and Volatile Evolution
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
NRA	NASA Research Announcement
NSF	National Science Foundation
OA	Office of Audits
OCIO	Office of the Chief Information Officer

OCO-2	Orbiting Carbon Observatory-2
OI	Office of Investigations
OIG	Office of Inspector General
OMP	Office of Management and Planning
OPS	Office of Protective Services
PwC	PricewaterhouseCoopers
SBIR	Small Business Innovation Research
SLS	Space Launch System
TRDA	Technological Research Development Authority

Appendix E. NASA OIG Offices of Audits and Investigations



NASA OIG Headquarters

300 E Street SW, Mail Stop 8U74
Washington, DC 20546-0001
Tel: 202-358-1220

Ames Research Center

NASA Office of Inspector General
Ames Research Center
Mail Stop 11, Building N207
Moffett Field, CA 94035-1000
Tel: 650-604-2679 Audits
Tel: 650-604-3682 Investigations

Glenn Research Center

NASA Office of Inspector General
Mail Stop 14-9
Glenn Research Center
at Lewis Field
Cleveland, OH 44135-3191
Tel: 216-433-9714 Audits
Tel: 216-433-2364 Investigations

Goddard Space Flight Center

NASA Office of Inspector General
Code 190
Goddard Space Flight Center
Greenbelt, MD 20771-0001
Tel: 301-286-6443 Audits
Tel: 301-286-9316 Investigations

NASA Office of Inspector General
Office of Investigations
402 East State Street
Room 3036
Trenton, NJ 08608-1507
Tel: 609-656-2543 or 609-656-2545

Jet Propulsion Laboratory

NASA Office of Inspector General
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109-8099

Office of Audits
Mail Stop 180-202
Tel: 818-354-3360

Office of Investigations
Mail Stop 180-203
Tel: 818-354-6630

NASA Office of Inspector General
Office of Investigations
Glenn Anderson Federal Building
501 West Ocean Boulevard
Suite 5120
Long Beach, CA 90802-4222
Tel: 562-951-5480

Johnson Space Center

NASA Office of Inspector General
Lyndon B. Johnson Space Center
2101 NASA Parkway
Houston, TX 77058-3696

Office of Audits
Mail Stop W-JS
Building 1, Room 161
Tel: 281-483-0483

Office of Investigations
Mail Stop W-JS2
Building 45, Room 514
Tel: 281-483-8427

Kennedy Space Center

NASA Office of Inspector General
Mail Stop KSC/OIG
Post Office Box 21066
Kennedy Space Center, FL
32899-0001
Tel: 321-867-3153 Audits
Tel: 321-867-4714 Investigations

Langley Research Center

NASA Office of Inspector General
Langley Research Center
Mail Stop 375
9 East Durand Street
Hampton, VA 23681-2199
Tel: 757-864-8562 Audits
Tel: 757-864-3263 Investigations

Marshall Space Flight Center

NASA Office of Inspector General
Mail Stop M-DI
Marshall Space Flight Center, AL
35812-0001
Tel: 256-544-1149 Audits
Tel: 256-544-9188 Investigations

Stennis Space Center

NASA Office of Inspector General
Office of Investigations
Building 3101, Room 119
Stennis Space Center, MS
39529-6000
Tel: 228-688-1493

OIG HOTLINE

1-800-424-9183 / TDD: 1-800-535-8134

GO TO: <http://oig.nasa.gov/hotline.html>

WRITE: NASA Office of Inspector General

P.O. Box 23089, L'Enfant Plaza Station

Washington, DC 20026

WEBSITE: <http://oig.nasa.gov>