

# NASA OFFICE OF INSPECTOR GENERAL

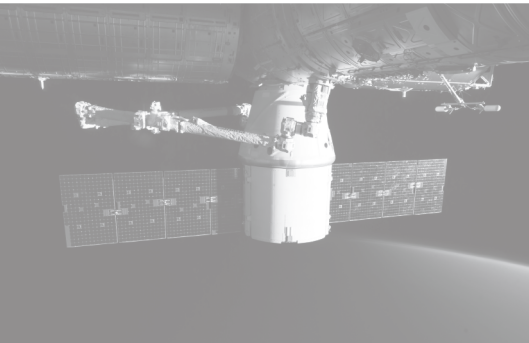
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## SEMIANNUAL REPORT

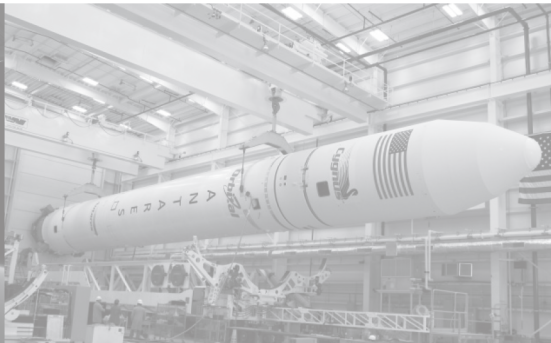


April 1–September 30, 2013

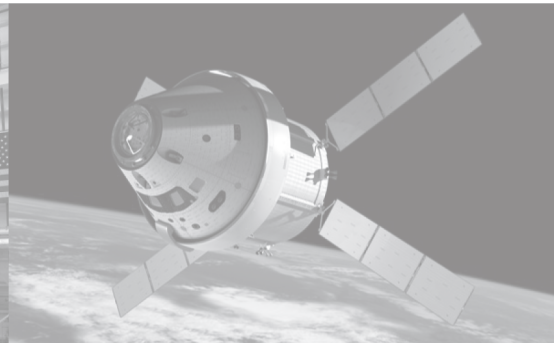
SpaceX Dragon attached to the International Space Station during the CRS-2 mission.



The Orbital Antares rocket for the A-ONE Launch Mission at the Horizontal Integration Facility (HIF) on Wallops Island.



Artist's rendering of NASA's Orion Multi-Purpose Crew Vehicle (MPCV) in Earth orbit.





## FROM THE INSPECTOR GENERAL

Since retirement of the Space Shuttle Program, NASA has relied on international partners to transport cargo and crew to the International Space Station (ISS) while the Agency developed transportation programs with private companies. During this reporting period, the Office of Inspector General (OIG) examined NASA's management of its commercial cargo program under which two companies deliver supplies and experiments to the ISS. Early in the next reporting period, the OIG will issue an audit examining NASA's partnership with three companies to develop crew transportation systems to the ISS that would end the Agency's reliance on the Russians. Given the importance of these two programs to the ongoing viability of the ISS, the OIG plans to closely monitor NASA's commercial cargo and crew efforts in the years ahead.

Perhaps the biggest challenge NASA faced during the past year was managing its diverse exploration, science, and aeronautics portfolios in a time of diminishing and uncertain budgets. Along with the rest of the Federal Government, NASA began fiscal year (FY) 2013 under a 6-month continuing resolution that funded the Agency at the previous year's level. This was followed by a budget for the second half of FY 2013 that – after the sequestration reduction – provided NASA with \$16.865 billion or \$935 million less than the previous year. These financial pressures look to continue in FY 2014 with NASA shuttered at the start of the fiscal year and its long-term funding outlook clouded.

For its part, the OIG has reduced discretionary expenses even though 84 percent of our annual appropriation goes to personnel and another 8 percent funds NASA's annual financial statement audit. For example, the OIG reduced its travel expenses in FY 2013 by \$400,000 or 38 percent compared to the previous year. One of the ways we achieved these savings is through expanded use of video conferencing technology to conduct meetings and interviews.

In September, I testified before the U.S. House of Representatives Subcommittee on Space about underutilized facilities at NASA Centers, including wind tunnels, thermal vacuum chambers, test stands, and air fields. Over the past 3 years, the OIG has issued 10 audit reports highlighting NASA's infrastructure challenges. We are developing similar bodies of work on several other important issues, including NASA's development of ground systems for the Agency's new "heavy lift" rocket and the Agency's management of its Space Communication and Navigation (SCaN) networks that provide communications, navigation, and scientific data delivery to NASA space flight missions.

Finally, during this reporting period our Office of Investigations continued its record of significant achievement by investigating a wide range of criminal and administrative cases that targeted fraud, ethical violations, and cyber attacks on NASA information technology systems.

This Semiannual Report summarizes the OIG's activities and accomplishments from April 1 through September 30, 2013. We hope that 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  
November 29, 2013

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# 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 OIG's fiscal year (FY) 2013 budget of \$35.285 million supports the work of 197 employees in their audit, investigative, and administrative activities.

The Inspector General (IG) provides policy direction and leadership for the NASA OIG and serves as an independent voice to the NASA Administrator and Congress by identifying opportunities for improving the Agency's performance. The Deputy Inspector General (DIG) 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 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 (OMP) 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 an 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 (DOJ) for criminal prosecution and civil litigation or to NASA management for administrative action. Through its investigations, OI develops recommendations for NASA management to reduce the Agency's vulnerability to criminal activity and misconduct.

The Office of Counsel to the Inspector General provides legal advice and assistance to OIG managers, auditors, and investigators. The Office serves as OIG counsel in administrative litigation and assists the DOJ when the OIG participates as part of the prosecution team or when the OIG is a witness or defendant in legal proceedings. In addition, the IG has designated the Counsel as Whistleblower Protection Ombudsman and in that role he educates Agency employees about prohibitions on retaliation for protected disclosures and about rights and remedies for protected whistleblower disclosures.



## AUDITS AND INVESTIGATIONS

### Space Operations and Human Exploration

Space operations and human exploration are among NASA's most highly visible missions. Key challenges on the horizon include the emergence of commercial companies seeking to provide crew transportation to the International Space Station (ISS or Station) and the development of new technologies for human exploration beyond low Earth orbit.

#### **Commercial Cargo: NASA's Management of Commercial Orbital Transportation Services and ISS Commercial Resupply Contracts**

In anticipation of the Space Shuttle Program's retirement, Congress directed NASA to foster the private commercial space flight industry as a means of developing commercial cargo transportation capabilities to the ISS. In the absence of a U.S. cargo transportation capability, NASA has needed to rely on its international partners to provide essential supplies to ISS crews and access to research conducted on the Station.

To encourage commercial companies to build spaceflight systems that could carry cargo to the ISS, NASA used a combination of Space Act Agreements and fixed-price contracts. Under the Space Act Agreements, NASA provided funding to two private companies – Space Exploration Technologies Corporation (SpaceX) and Orbital Sciences Corporation (Orbital) – to further the companies' development of their spaceflight cargo capabilities. In 2008, NASA entered into a \$1.6 billion fixed-price contract with SpaceX for 12 resupply missions and a \$1.9 billion contract with Orbital for 8 missions. In light of the commercial cargo program's importance to the ongoing viability of the ISS, the OIG examined NASA's management of the program.

We found that despite an almost 3-year delay in development, SpaceX successfully completed its demonstration flights and two resupply missions to the ISS. Although each mission experienced some anomalies, none were serious enough to affect substantially the missions.

Similar to SpaceX, Orbital experienced delays in its development program and these delays in turn caused delays to the planned flight schedule for the company's resupply missions to the ISS. However, NASA did not consistently adjust its payment schedule to Orbital in light of these delays. In fact, we found that despite the delayed launch schedule, NASA was on track to pay Orbital up to 70 percent of the funds associated with the company's first six

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ISS resupply missions – well in advance of lead times needed in light of the current launch schedule. Specifically, although Orbital was not scheduled to undertake its first resupply mission until the end of 2013, NASA had paid Orbital \$910 million through FY 2012 toward both the company’s Space Act developmental efforts and for resupply missions under its fixed-priced contract.

As a general matter, procuring rocket systems prior to a successful system demonstration flight substantially increases financial risk if major technical problems are encountered during final testing and demonstration. NASA officials said they concurrently funded development of SpaceX’s and Orbital’s spaceflight capabilities and their resupply missions out of a need to ensure a redundant cargo capacity and to meet the ISS resupply schedule. Given the critical need for ISS resupply capabilities, we did not question NASA’s decision to concurrently fund spacecraft systems for up to three cargo missions. However, we did question whether NASA had accepted too much financial risk by funding construction of six Orbital spacecraft systems before the company had flown a successful demonstration flight to the Station.

In order to reduce financial risks to the Agency, we recommended NASA ensure that it updates contracts with commercial cargo providers to reflect the lead times required to meet any revised launch dates. Specifically, if launch dates slip, NASA should adjust the contracts to ensure that payments to the companies appropriately reflect revised schedules. NASA concurred with our recommendation.

*Commercial Cargo: NASA’s Management of Commercial Orbital Transportation Services and ISS Commercial Resupply Contracts (IG-13-016, June 13, 2013)*  
<http://oig.nasa.gov/audits/reports/FY13/IG-13-016.pdf>

## **NASA’s Development of the Multi-Purpose Crew Vehicle**

In April 2013, NASA announced plans to launch by 2025 a mission to identify, capture, and relocate an asteroid while at the same time emphasizing that Mars is its ultimate destination for beyond low Earth orbit exploration. Some members of Congress, however, advocate a return to the moon as the next step for NASA’s human exploration program. Whatever the destination, successful development of the Orion Multi-Purpose Crew Vehicle (MPCV) is critical to the success of NASA’s human exploration efforts. In this audit, the OIG examined the MPCV Program’s progress in meeting cost and schedule goals, as well as its challenges coordinating with other NASA and non-NASA programs.

The MPCV is an outgrowth of the crew capsule development program from NASA's defunct Constellation Program. At the same time, NASA is developing a new "heavy lift" rocket known as the Space Launch System (SLS) and the Ground Systems Development and Operations Program (GSDO), which will support both the capsule and the rocket. The Agency is also working with the European Space Agency (ESA) to provide the MPCV Service Module, a critical component of the new spaceflight system. In accordance with the NASA Authorization Act of 2010, the MPCV and SLS are being developed "to the extent practicable" using contracts, investments, workforce, and capabilities associated with the Constellation Program.

The MPCV Program anticipates receiving a flat budget profile of approximately \$1 billion per year until at least 2020. We found that constrained funding for the MPCV has forced Program managers to adopt a less-than-optimal incremental development approach in which elements necessary to complete the most immediate tasks are given priority while development and testing is delayed on other important but less time sensitive aspects of the Program. Although we believe MPCV Program officials are managing the Program as effectively as they can within a constrained budget, we expressed concern about the risks associated with the Agency's incremental development approach. We noted that the MPCV Program was beginning to experience testing delays that could result in future schedule interruptions and cost increases. Specifically, test dates had slipped 4 years on the Ascent Abort-2 test and 1 year on the Exploration Flight Test-1. NASA has also delayed development of many of the life support systems required for crewed missions.

In addition, we noted that reliance on timely progress of the SLS and GSDO programs and the ESA for the Service Module adds risk that is outside the control of the Program and could have a negative impact on the MPCV and NASA's overall exploration mission goals.

Moreover, even after the MPCV is fully developed and ready to transport crew, NASA will continue to face significant challenges concerning the long-term sustainability of its human exploration program. For example, unless the Agency begins a program to develop landers and surface systems, NASA astronauts will be limited to orbital missions using the MPCV. Under the current budget environment, it appears unlikely that NASA will obtain significant funding to begin development of such additional exploration hardware, thereby delaying such development into the 2020s.

Although we did not make specific recommendations for corrective action, we encouraged NASA managers to be as transparent as possible when discussing the issues facing the MPCV Program and the risk associated with its incremental development. We believe it vital that Congress and the

public recognize that incremental spacecraft development is not an optimal way to sustain a human space program. Further, NASA must enhance communication between the MPCV, SLS, and GSDO programs to ensure that the schedules for these interdependent programs remain aligned. NASA agreed with the general observations made in the report.

*Status of NASA's Development of the Multi-Purpose Crew Vehicle (IG-13-022, August 15, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-022.pdf>



*The International Space Station*  
Source: NASA.

### **NASA's Efforts to Maximize Research on the International Space Station**

Given its significant construction and operating costs, national leaders have emphasized the importance of maximizing the scientific research capabilities of the ISS. Congress designated the U.S. segment of the ISS as a national laboratory in 2005, and directed NASA to increase utilization by other federal entities and to foster commercial interest in conducting research. In 2011, NASA entered into a cooperative agreement with the Center for the Advancement of Science in Space (CASIS) to manage at least 50 percent of the Agency's available research resources on the ISS. To supplement the \$15 million in annual funding the Agency provides to the organization, CASIS is expected to raise additional money through business development, donations, and membership fees and encourage self-funded research on the Station.

We found that although NASA has made progress towards maximizing the research capabilities of the ISS, opportunities exist for increased utilization. We also found that further progress in maximizing Station research capabilities largely hinges on two factors: the ability of CASIS to attract sufficient interest and funding from private users and the availability of reliable transportation to and from the Station for crew and cargo.

CASIS's task is particularly challenging given the historic lack of interest from private entities in conducting research aboard the ISS in the absence of government funding. Moreover, CASIS suffered a series of early organizational issues that may have affected its initial fundraising efforts. While CASIS's general goals for FY 2013 – awarding research grants from funds raised through donations and approving more self-funded investigations – are positive first steps toward enhancing a market for non-NASA research aboard the ISS, we found that neither CASIS nor NASA had developed specific, quantifiable metrics to measure CASIS's ability to meet these goals. Without more precise metrics that reflect the degree to which non-NASA research is conducted on the ISS, it will be difficult to determine if CASIS is achieving its goal of improving the return on investment in the ISS by increasing use of the national laboratory.

NASA's commercial cargo program is essential to ensuring the capacity to ferry experiments to and from the Station and the vehicles currently under development will make it possible to staff the ISS with a full complement of seven crew members rather than the current six, thereby increasing the amount of crew time available for research.

We recommended that NASA work with CASIS to develop precise annual performance metrics that measure CASIS's success at fostering private research on the ISS. NASA concurred with our recommendation.

*NASA's Efforts to Maximize Research on the International Space Station (IG-13-019, July 8, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-019.pdf>

## **Ongoing Audit Work**

### *NASA's Management of the Commercial Crew Program*

Given the importance of the Commercial Crew Program to NASA's human spaceflight efforts, we are assessing the progress of NASA's commercial partners toward developing a certified crew capability and examining the major challenges NASA must address to successfully implement the Program.

### *NASA's Efforts to Extend the Operational Life of the International Space Station*

NASA's 2010 Authorization Act extended the operational life of the ISS from 2015 to 2020. While national leaders continue to emphasize the importance of maximizing the Station's scientific research capabilities, NASA must address the question of whether to request another extension for the Station. We are examining NASA's efforts to extend the operational life of the ISS beyond 2020.

### *Space Communications and Navigation Program*

NASA's Space Communications and Navigation (SCaN) Program is responsible for providing communications, navigation, and scientific data delivery services to space flight missions. SCaN is comprised of three networks: the Near Earth Network, which covers low-Earth orbit and portions of geosynchronous orbit; the Space Network, which controls the Tracking and Data Relay Satellites through a network of geographically diverse ground systems; and the Deep Space Network, which covers NASA mission needs beyond geosynchronous orbit. Without SCaN services, satellites could not transmit data to Earth or be commanded or controlled by people on Earth and space hardware worth tens of billions of dollars would be little more than orbital debris. While the Agency has provided network services for more than 30 years, many of the systems suffer from an aging and fragile infrastructure.

The OIG is examining the SCaN Program in three audits, the first of which will focus on the Space Network. The objective of this audit is to assess how NASA is identifying and adjusting capabilities to meet mission requirements; managing program, cost, schedule, and performance; and addressing key risks facing the project.

### *NASA's Efforts to Identify and Mitigate Near-Earth Object Hazards*

Every day more than 100 tons of material from space enters the Earth's atmosphere. Although most of this material burns up upon entry, occasionally large objects penetrate the atmosphere, such as the meteor that exploded in the Siberian sky in February 2013, and caused widespread damage. In this audit, we are assessing the progress of NASA's Near-Earth Object Program toward meeting its goal of detecting 90 percent of near-Earth objects larger than 140 meters in diameter by the year 2020.

## 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 Agency IT management practices.

### **Audit of NASA's Information Technology Governance**

IT governance is a process for designing, procuring, and protecting IT resources. Because IT is intrinsic and pervasive throughout NASA, the Agency's IT governance structure directly affects its ability to attain its strategic goals. For this reason, effective IT governance must balance compliance, cost, risk, security, and mission success to meet the needs of internal and external stakeholders. However, for over 2 decades NASA has struggled to implement an effective IT governance approach that appropriately aligns authority and responsibility.

In this audit, we found that the decentralized nature of NASA's operations and its longstanding culture of autonomy hinder the Agency's ability to implement effective IT governance. NASA's Chief Information Officer (CIO) has limited visibility and control over a majority of the Agency's IT investments, operates in an organizational structure that marginalizes the authority of the position, and cannot enforce security measures across NASA's computer networks. Specifically, during FY 2012 the Agency CIO had direct control and visibility of only 11 percent of NASA's \$1.5 billion IT budget; the remaining 89 percent was controlled either by the Centers and Mission Directorates. Further, NASA purposefully limits the authority of the CIO position to preserve control by the Centers and Mission Directorates over their respective IT assets. Although the Agency CIO is responsible for developing IT security policies and procedures and implementing an Agency-wide IT security program, because the position lacks authority and control over mission networks, the CIO is unable to enforce the implementation of IT security programs on a large portion of NASA's IT assets.

In addition, we found that the current IT governance structure is overly complex and does not function effectively. As a result, Agency managers tend to rely on informal relationships rather than formalized business processes

when making IT-related decisions. While other Federal agencies are moving toward a centralized IT structure under which a senior manager has ultimate decision authority over agency IT budgets and resources, NASA continues to operate under a decentralized model that relegates decision making about critical IT issues to numerous individuals across the Agency, leaving such decisions outside the purview of the NASA CIO. Consequently, NASA's current IT governance model weakens accountability and does not ensure that IT assets across the Agency are cost effective and secure.

We made eight recommendations to NASA's Administrator, including that he consolidate the overall governance of IT within the Office of the CIO and ensure that Office has adequate visibility into mission-related IT assets and activities; ensure the Agency CIO approves all IT assets over an established monetary threshold that captures the majority of purchases; make the Agency CIO a direct report to the NASA Administrator and revise the job titles of Center and Mission Directorate CIOs to more clearly delineate roles and responsibilities; ensure renamed Mission Directorate CIO positions report directly to the Agency CIO; reevaluate the relevancy, composition, and purpose of the three primary governance boards; revise governance board charters to include all information critical to ensuring the effective use of the boards; and reevaluate the resources of the Office of the CIO to ensure it has sufficient personnel with the appropriate capabilities and skill sets. The NASA Administrator concurred or partially concurred with our recommendations.

*Review of NASA's Information Technology Governance (IG-13-015, June 5, 2013)*  
<http://oig.nasa.gov/audits/reports/FY13/IG-13-015.pdf>

## **NASA's Progress in Adopting Cloud-Computing Technologies**

NASA spends about \$1.5 billion annually on its portfolio of IT assets. The adoption of cloud-computing technologies has the potential to improve IT service delivery and reduce the costs associated with managing the Agency's diverse IT portfolio through faster deployment of computing resources and a decreased need to buy hardware or build data centers. NASA projects that within the next 5 years, 75 percent of new IT programs could begin in the cloud, 40 percent of legacy systems could be moved to the cloud, and nearly 100 percent of the Agency's public data may be stored in the cloud.

To accelerate the Government's use of cloud computing, OMB requires agencies to adopt a "Cloud First" policy and evaluate secure, reliable, and cost-effective cloud-computing alternatives when making new IT investments. As NASA expands its use of public cloud services, it is





*Nebula: NASA's Cloud-Computing Data Center*  
Source: NASA.

imperative that the Agency has strong governance and risk management practices in place to mitigate the chance that Agency operations may be disrupted, data lost, or public funds misused.

In this audit, we evaluated NASA's progress in adopting cloud-computing technologies. We focused on whether NASA has implemented an Agency-wide IT governance model for cloud computing and reviewed the Agency's risk management practices for acquiring and securing cloud-computing services.

We found that weaknesses in NASA's IT governance and risk management practices impeded the Agency from fully realizing the benefits of cloud computing and potentially put NASA systems and data stored in the cloud at risk. For example, several NASA Centers moved Agency systems and data into public clouds without the knowledge or consent of the Agency's Office of the CIO. Moreover, on five occasions NASA acquired cloud-computing services using contracts that failed to fully address the business and IT security risks unique to the cloud environment. Further, one of the two moderate-impact systems NASA moved to a public cloud operated for 2 years without authorization, a security or contingency plan, or a test of the system's security controls. We also found that NASA satisfied the requirement of OMB's Cloud-First initiative by moving several existing IT services from data centers to the cloud.

To strengthen NASA's IT governance practices with respect to cloud computing, mitigate business and IT security risks, and improve contractor oversight, we recommended that NASA's CIO establish a cloud-computing program management office authorized to promulgate an Agency cloud-

computing strategy; define related standards; and approve, coordinate, and oversee Agency-wide acquisition and deployment of cloud-computing services. In addition, we recommended the CIO direct all Center and Mission Directorate CIOs to take the actions necessary to meet Federal policy requirements, require NASA organizations acquiring cloud services to use contract vehicles with policy-compliant terms, and establish an oversight function to ensure that moderate- and high-impact NASA systems and data are not moved to public clouds unless Federal and Agency IT security requirements are met.

Finally, to remedy IT security deficiencies associated with the moderate-impact cloud service currently operating without authorization, we recommended that the system owner direct the service provider to develop system and contingency plans that comply with National Institute of Standards and Technology standards and perform a test of the system's security controls. The Agency concurred with each of our recommendations.

*NASA's Progress in Adopting Cloud-Computing Technologies (IG-13-021, July 29, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-021.pdf>

## **Nigerian Phishers/Spammers Indicted**

In April 2013, two Nigerian hackers were indicted by prosecutors in Abuja, Nigeria, for their involvement in a large, coordinated phishing and spamming group with ties to India, Malaysia, Nigeria, and South Africa. The group targeted several U.S. government organizations, including numerous NASA e-mail accounts, and stole user credentials and used the hijacked accounts to send massive amounts of spam.

## **Ongoing Audit Work**

### *Security of NASA's Public Websites*

A publicly accessible website allows anyone on the Internet anywhere in the world to view its content, perform transactions, or download data. Exploiting vulnerabilities in software applications used by publicly accessible websites is a common technique hackers use to gain unauthorized access to an organization's networks to steal sensitive data or disrupt operations. In this review, we are examining the effectiveness of NASA's efforts to secure and reduce the number of its publicly accessible websites.

### *NASA's Consolidated End User Services Contract*

NASA's Agency Consolidated End User Services Contract (ACES) is part of an overall Agency initiative to centralize IT services and move away from a Center-centric to an Enterprise-centric model when providing computers and other IT services to NASA employees. We are examining whether the ACES contract is improving end user services, realizing efficiencies, and meeting Agency mission requirements.

### *NASA's Compliance with Federal Information Security Management Act for Fiscal Year 2013*

In this annual audit required across the Federal Government, we are evaluating specific aspects of NASA's information security program and will report our results to the Office of Management and Budget. We are reviewing a sample of 12 NASA- and contractor-owned information systems for compliance with the Federal Information Security Management Act (FISMA) criteria for FY 2013 to determine whether major deficiencies identified in the previous year's FISMA review have been addressed.

### *NASA's Utilization of Independent Verification and Validation Capability and Facility*

NASA's Independent Verification & Validation (IV&V) Program is intended to provide assurance that the Agency is developing and deploying safe and reliable software. NASA established the IV&V Facility in West Virginia after the Shuttle Challenger tragedy as part of an Agency-wide effort to provide the highest levels of safety and cost effectiveness for mission critical software. The decommissioning of the Space Shuttle Program and completion of assembly of the ISS potentially reduced the need for IV&V and utilization of the Facility. We are assessing whether NASA is appropriately utilizing its IV&V capability and facility in response to changes in mission and workforce requirements.

### *Security of NASA's Mobile Computing Devices*

Thousands of NASA employees use mobile devices, including smartphones and tablets, to connect with NASA networks. While mobile devices offer greater work flexibility, they are vulnerable to compromises in data security. We are evaluating NASA's oversight of the security of its mobile computing devices.

## Acquisition and Project Management

In the current environment of reduced budgets for Federal agencies, effective contract, grant, and project management is more critical than ever. 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.

### **Security Firm Personnel Sentenced**

In June and July 2013, six executives of two Virginia-based security firms were sentenced in U.S. District Court for the Eastern District of Virginia to prison or probation and ordered to pay fines totaling \$1 million and restitution of \$7.8 million. The companies illegally obtained more than \$31 million in government contracts, including with NASA, intended for disadvantaged small businesses. In total, the fraudulent scheme perpetrated by the security contracting firms resulted in the firms receiving government contracts valued at more than \$153 million. The executives pleaded guilty to major fraud, conspiracy to commit fraud, and submitting a false application to the Small Business Administration. One executive was also sentenced for conspiracy to commit bribery for making a \$50,000 payment to a contracting official with the Department of Homeland Security in exchange for the official's help in securing Federal contracts. The government employee was also prosecuted and sentenced to 15 months' prison, 12 months' supervised release, and ordered to pay \$12,500 in restitution.

### **Civil Settlement with Government Contractor**

In August 2013, Conax Florida Corporation and related companies agreed to pay the United States \$2 million and provide the Government \$2.4 million in electronic parts to resolve allegations under the False Claims Act that the company submitted false claims to the Department of Defense and NASA for defective and nonconforming aviation life-saving equipment. A joint investigation by the NASA OIG and the Defense Criminal Investigative Service revealed the contractor submitted claims for parts used on aircraft personnel restraint systems that it did not test in accordance with contractual requirements. The Government also alleged the contractor used nonconforming voltage references, which are part of water-activated parachute releases used by the U.S. military and NASA.

### **Former NASA Subcontractor Pleads Guilty to Fraud**

In September 2013, a Mississippi testing company was sentenced for making false statements related to concrete-stress tests at Stennis Space Center. Several months earlier, a corporate representative pleaded guilty on the company's behalf in U.S. District Court for the Southern District of Mississippi after being charged with fraud related to work performed on three diffuser pads on a flight-engine test stand for NASA and the Army Corps of Engineers at the Mississippi Army Ammunition Plant. The company received 36 months' probation for each count and was ordered to pay \$40,871 in restitution and \$25,000 in fines.

### **Contractor Enters into Civil Judgment**

In May 2013, a NASA contractor agreed to pay \$73,963 to settle allegations of mischarging on two Small Business Innovative Research (SBIR) contracts. An OIG investigation revealed the contractor charged NASA for employees who did not work on either of their SBIR Phase I and II contracts. In addition, the contractor misclassified subcontractor costs as direct labor to conceal that they had failed to meet the two-thirds subcontracting limitation required on its SBIR Phase I contract and the 50 percent subcontracting limitation requirement on its SBIR Phase II contract.

### **University Enters into Civil Settlement**

In June 2013, the Georgia Institute of Technology agreed to pay \$51,744 to settle overcharges to NASA on an Intergovernmental Personnel Act Agreement (IPA). An OIG investigation disclosed that the university agreed to absorb 20 percent of all costs associated with this IPA while NASA agreed to pay the remaining 80 percent. However, when calculating its costs under the IPA the university accounted for costs associated with an instructional backfill position that was not part of the IPA. The inclusion of these costs resulted in an overpayment to the university by NASA.

## Former NASA Program Manager Agrees to Civil Settlement

In September 2013, a former program manager at Langley Research Center agreed to pay \$15,000 as a civil penalty for violating a criminal conflict of interest statute that prohibits Government employees from participating in official actions affecting their financial interests. An investigation by the NASA OIG found that the former employee used his official position to approve contract payments to a company with which he was negotiating employment. When the employee retired from NASA, he went to work for the company, which paid him a \$10,000 bonus based on the work he had completed while a Government employee. In addition to the civil penalty, the employee was sentenced to serve 1 day of incarceration and 1 year of probation and fined \$2,500.

## Ongoing Audit Work

### *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 Space Act – are commonly referred to as Space Act Agreements. NASA currently has more than 1,000 Space Act Agreements with Federal agencies, U.S. companies and educational institutions, foreign governments, and other entities. We are 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.

### *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. We are 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 Award Closeout Process*

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

### *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, OMB 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. We are evaluating NASA's implementation of the Strategic Sourcing Program to determine whether it has resulted in cost savings.

### *Audit of the Stratospheric Observatory for Infrared Astronomy Project*

Following 17 years of development at a cost of more than \$1 billion – a 300 percent increase over initial estimates – the Stratospheric Observatory for Infrared Astronomy (SOFIA) Project is approaching full operational capability. The SOFIA Project's life-cycle costs of approximately \$3 billion and operational costs of approximately \$85 million per year makes it one of the most expensive observatories in NASA's science portfolio. We are examining NASA's management of the SOFIA Project.

### *NASA's Mission Operations Services*

Space-based mission operations have evolved over the years as both spacecraft and ground system technology have matured. As the capabilities of these systems have increased, NASA is able to collect significantly more science data and control operational satellites with greatly reduced staff, which lowers overall program costs. NASA's FY 2014 budget request includes \$755.4 million for Science Mission Directorate operations and data analysis activities. We are examining whether the Science Mission Directorate is receiving mission operations services commensurate with the costs expended.

## Infrastructure and Facilities Management

Infrastructure and facilities management has been a long-standing 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. Since completing the study, the Agency has strengthened central authority over infrastructure decisions and initiated efforts to improve data management and better assess technical capability needs across the Agency. In light of the enormity of NASA's infrastructure challenges, the OIG has focused significant audit resources on this topic.

### **NASA's Management of Energy Savings Contracts**

In response to Federal mandates to reduce energy consumption, several NASA Centers have entered into energy savings performance contracts (energy contracts) with private companies to fund conservation measures and provide guaranteed savings. These contracts are designed to have no impact on an agency's budget – positive or negative – although any cost savings generated from the conservation measures after the contract ends accrue to the agency. Ultimately, NASA is responsible for ensuring that energy companies deliver on the savings guarantees contained in these contracts and for adjusting the contracts if they fail to do so.

NASA's Johnson Space Center (Johnson) awarded the Agency's first energy contract in 1999 for \$42.7 million. The contract was designed to save approximately \$2 million a year in energy and operational costs for 22 years. Subsequently, NASA awarded six additional contracts at five other Centers with guaranteed savings of almost \$93 million and performance periods of 10 or more years. At the time of our audit, two of the contracts had ended (Goddard Space Flight Center and Glenn Research Center) and two others were early in their performance periods (Jet Propulsion Laboratory and Wallops Flight Facility). The two remaining contracts were both at Ames Research Center (Ames). We focused our review on contracts at Johnson and Ames in an effort to provide "lessons learned" for contracts underway or planned at other Centers.



Although Ames has not yet needed to adjust its energy contracts to account for facility renovation or demolition, we found that the Center appears to be effectively managing its agreements. However, we concluded that Johnson mismanaged its contract by not requiring the contracted company to submit annual savings verification reports and adding work to the contract without ensuring that energy savings would cover the additional costs. Further, neither Johnson nor NASA Headquarters had developed sufficient guidance or an effective training program regarding administration of energy contracts. As a result, Johnson may have overpaid the energy company because it could not verify that the conservation measures installed under the contract resulted in the guaranteed \$2 million in annual energy savings.

To reduce the risk of overpayments on energy contracts and implement sound management practices, we recommended NASA ensure that guaranteed energy savings are being achieved at Johnson and, if not, determine whether the contract needs to be modified; finalize new policy to ensure employees have specific guidance for managing energy contracts; revise Agency policy to require that estimates for renovation or demolition of facilities include the loss of guaranteed savings from conservation measures installed pursuant to energy contracts; and ensure that procurement and technical staff who are responsible for awarding and administering energy contracts are adequately trained.

NASA disagreed with our first recommendation, stating that Johnson's accounting practices are consistent with the Department of Energy's standards and that implementing any changes to the contract would be almost impossible and certainly impractical. The OIG continues to believe that annual verification is essential to ensuring that guaranteed energy savings are being achieved. The Agency was responsive to our other recommendations.

*NASA's Management of Energy Savings Contracts (April 8, 2013, IG-13-014)*  
<http://oig.nasa.gov/audits/reports/FY13/IG-13-014.pdf>

## **Ongoing Audit Work**

### *NASA's Environmental Remediation Efforts*

NASA is required by law to evaluate the environmental and safety impacts associated with asset disposition as well as to properly clean up chemicals released to the environment from its past activities. We are examining the extent of NASA's environmental remediation needs and whether the Agency has an effective program to address those needs.

*NASA's Decision Process for Space Launch System Core State Testing*

In April 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 SLS core stage engines. Refurbishment of the test stand is expected to cost approximately \$357 million and take more than 4 years to complete. We are evaluating whether the decision to refurbish the test stand resulted in the best value for the taxpayer and best supported the SLS Program.

*Audit of NASA's Launch Support and Infrastructure Modernization Efforts*

NASA's Ground Systems Development and Operations (GSDO) Program is refurbishing and modifying the infrastructure at the Kennedy Space Center used to launch the Space Shuttle. Specifically, the GSDO Program is refurbishing the crawler-transporter that will carry the SLS from Kennedy's Vehicle Assembly Building to launch pad 39B and modifying the mobile launcher platform and tower, the Vehicle Assembly Building, and launch pad 39B to support the SLS. We are evaluating NASA's management of its launch infrastructure modernization efforts, including the work performed by the GSDO Program.

## Financial Management

The OIG continues to assess NASA's efforts to improve its financial management practices and works closely with the independent external auditor conducting the Agency's annual financial statement audit.

### **Audit of Selected NASA Conferences**

NASA hosts conferences attended by its employees, contractors, industry partners, employees of other Federal agencies, and the public. From October 2010 through September 2012, NASA sponsored or co-sponsored 43 conferences for which the associated costs per conference exceeded \$20,000. Overall, NASA reported spending a total of \$8.6 million on these 43 conferences. In this audit, we examined expenses for the 2011 IT Summit held in San Francisco, including the planning process; site selection; transportation, lodging, meal, and other costs; and funding relationships with external partners. Based on those findings, we then examined three other high-cost NASA conferences for similar issues.

We found that NASA improved its conference guidance in recent years and generally complied with Federal and Agency requirements in connection with the four conferences we reviewed. However, we noted several issues with the Agency's 2011 IT Summit related to the way NASA handled the contributions made by the National Institute of Aerospace Foundation (Foundation). Specifically, we questioned whether NASA augmented its appropriation by accepting donations from the Foundation without following Agency procedures governing acceptance of gifts from outside parties. In addition, we found that conference planners inappropriately excluded service costs and tax associated with an awards luncheon when calculating the value of the meal to NASA employees. As a result, the lunch did not fall within the exception to federal ethics rules allowing the acceptance of gifts with a value of \$20 or less.

We also found shortcomings related to the 2011 IT Summit that show the Agency could benefit from additional guidance. Specifically, we found that Agency officials underreported costs associated with the Summit by failing to include more than \$500,000 in contractor attendance and travel costs paid by NASA. We also found that the Agency's cost tracking processes cannot account for all conference-related costs and that planners did not consistently conduct required cost comparisons of possible conference sites. Finally, we found significant differences between the planned and actual costs for the 2011 IT Summit.

We recommended that NASA's Chief Financial Officer improve conference guidance regarding partnering relationships, work with the Office of the General Counsel to determine whether any Foundation contributions to the 2011 IT Summit inappropriately augmented NASA's appropriations and address any issues identified, enhance conference guidance for acceptable planning and conference costs by requiring increases of 10 percent or more in specific cost categories and above a certain threshold be approved by appropriate officials and conference planners to obtain quotes from at least three conference sites, and develop a methodology for gathering costs directly billed to NASA for contractor employees who attend NASA-sponsored conferences with significant contractor attendance. We also made one recommendation to the General Counsel to update the standard questions used to evaluate event requests to make clear that gifts are valued at the retail cost to the employee and that for meals this figure includes food and beverages as well as applicable tax and service charges. The Chief Financial Officer concurred with our recommendations.

*Audit of Selected NASA Conferences (July 18, 2013, IG-13-020)*  
<http://oig.nasa.gov/audits/reports/FY13/IG-13-020.pdf>

## **Ongoing Audit Work**

### *NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2013*

The Improper Payments Information Act (IPIA), as amended by the Improper Payments Elimination and Recovery Act of 2010 (IPERA), seeks to enhance the accuracy and integrity of Federal payments. In this mandated audit, we are assessing NASA's compliance with the requirements of IPIA and IPERA. In addition, we are evaluating the completeness and accuracy of NASA's reporting of IPIA data, NASA's progress in reducing and recapturing improper payments, and NASA's implementation of recommendations we made in prior improper payments audits.

### *NASA's FY 2013 Financial Statements*

The Chief Financial Officers Act of 1990, as expanded by the Government Management Reform Act of 1994, requires an audit of NASA's consolidated financial statements. We are overseeing the audit conducted by the independent public accounting firm PricewaterhouseCoopers.

## Other Audit and Investigative Matters

### **Evaluation of NASA's Implementation of Executive Order 13526, Classified National Security Information**

In December 2009, the President signed Executive Order 13526, "Classified National Security Information" (Order), to reform the security classification and declassification processes. The Order was intended to produce greater openness and transparency in the Government's classification and declassification programs while maintaining the Government's legitimate interests to protect certain information from unauthorized disclosure. Public Law 111-258, "Reducing Over-Classification Act" of 2010, requires the Inspector General of each Federal department or agency with an employee who is authorized to make original classifications to assess agency compliance with the Order. In response to Public Law 111-258, we: (1) assessed whether NASA has adopted, followed, and effectively administered classification policies, procedures, rules, and regulations, and (2) identified policies, procedures, rules, regulations, or management practices that may be contributing to misclassification of material at the Agency.

We found that NASA has adopted classification policies and issued regulations that comply with security classification reform requirements. Specifically, NASA has established procedural requirements for the proper implementation and management of a uniform system for classifying, accounting for, safeguarding, and declassifying national security information under its control. However, while the Agency's procedures meet Federal requirements, its implementing directives do not require Agency personnel with classification authority receive all necessary training. In addition, we found instances in which Agency personnel were not consistently following NASA's established procedural requirements. Specifically, we found classified documents that were improperly marked, training requirements that were not met, and self-inspections that were not fully implemented. Although these deficiencies were relatively minor, failure to comply with these requirements increases the risk that personnel may inadvertently misclassify material.

We recommended that NASA revise its implementing directives to clarify that persons with classification authority receive all required training prior to classifying information; ensure persons who apply derivative classification markings receive training before classifying any information and at least every 2 years thereafter; and the self-inspection program identifies marking and training deficiencies and NASA develops appropriate corrective actions

to prevent future occurrences. NASA agreed to take actions to address each of our recommendations. In accordance with Public Law 111-258, we will conduct a second evaluation by September 30, 2016, to review the actions NASA takes in response to this review.

*NASA's Compliance with Executive Order 13526: Classified National Security Information (IG-13-023, September 26, 2013)*

<http://oig.nasa.gov/audits/reports/FY13/IG-13-023.pdf>

### **Former Contract Employee Sentenced for Theft**

In July 2013, a former engineering technician working under contract at Goddard Space Flight Center (Goddard) was sentenced in the U.S. District Court for Maryland to a year and a day followed by 3 years' supervised release for stealing government property. From October 2011 through November 2012, the technician stole tools and equipment from Goddard and sold them to several pawn shops in Maryland. The court also ordered the former employee to pay restitution of \$11,574.35 to the Government and \$4,461 to a pawn shop in Annapolis, Maryland, and forfeit more than \$29,000.

### **Spouse of NASA Employee Convicted of Making False Statements**

In July 2013, a NASA employee's spouse pleaded guilty in the U.S. District Court for the Northern District of Ohio to making false statements in connection with a scheme to cover up her husband's misuse of his government issued credit card. An OIG investigation disclosed that the spouse represented herself as a bank official to NASA and claimed the bank was investigating the inappropriate use of her husband's government credit card as an incident of identity theft and therefore he was not responsible for the misuse of his government credit card. The NASA employee was suspended for 7 days without pay for misuse of his government credit card.

### **Former NASA Contractor Security Guard Sentenced**

In June 2013, a former NASA contract security guard at the Stennis Space Center was sentenced to 4 years' supervised probation and ordered to pay a \$2,000 fine after pleading guilty to stealing a USB secure token that controlled expensive software.

## **Former NASA Contractor Sentenced**

In May 2013, a former contractor employee of the Marshall Space Flight Center was sentenced in U.S. District Court for the Northern District of Alabama to 12 months' probation and ordered to pay \$525 in fines and restitution for theft of personal property. The sentence resulted from a joint investigation by NASA security personnel and the OIG in which the employee admitted to stealing cash from the desks of Center employees.

## **Ongoing Audit Work**

### *NASA's Management Strategy for Conducting Aeronautics Research*

NASA's Aeronautics Research Mission Directorate has been responsible for significant advances in aeronautics over the years, including advanced flight control systems, de-icing devices, and aircraft noise reduction. Over the past decade, NASA's aeronautics budget has shrunk substantially, from more than \$1 billion in 2000 to approximately \$570 million in 2013. We are reviewing NASA's management strategies for conducting aeronautics research to determine whether the Agency is advancing the Nation's civil aeronautics research and technology objectives.

## CONGRESSIONAL TESTIMONY

### **NASA's Aging Infrastructure**

On September 20, 2013, Inspector General Martin testified before the U.S. House of Representatives Subcommittee on Space along with Richard Keegan, the Associate Administrator for NASA's Mission Support Directorate.

In his testimony, the IG discussed the challenges facing NASA with respect to its aging infrastructure and antiquated facilities. As the IG noted, for the past 3 years the OIG has identified "Infrastructure and Facilities Management" as one of NASA's top management and performance challenges – and expects it to remain a top challenge for many years to come. The IG drew attention to NASA's practice of employing a decentralized approach to managing its infrastructure, leading Centers to compete for work from the Agency's major programs and rewarding a "keep it in case you need it" mindset. The IG also stated that fluctuation and uncertain requirements, political pressure, and inadequate funding have impeded the Agency's past efforts to reduce infrastructure.

IG Martin concluded that NASA's best efforts to reduce its excess facilities may be insufficient to overcome the cultural and political obstacles that have impeded past efforts. Accordingly, an outside process similar to the Department of Defense's Base Realignment and Closure Commission may be needed to help make the difficult but necessary infrastructure decisions.

*NASA's Infrastructure: Enabling Discovery and Ensuring Capability*  
[http://oig.nasa.gov/congressional/NASAIGMartin\\_09\\_20\\_2013.pdf](http://oig.nasa.gov/congressional/NASAIGMartin_09_20_2013.pdf)



## LEGAL ISSUES

### **Whistleblower Protection Training**

OIG Legal Counsel provided training to OIG investigators on the whistleblower protections for contractor, subcontractor, and grantee employees contained in the National Defense Authorization Act of 2013. These protections went into effect for contracts awarded on or after July 1, 2013. OIG Legal Counsel also provided updates to agents on the changes to the Whistleblower Protection Act and the new whistleblower protection policies in Presidential Policy Directive 19 for national security whistleblowers.

### **Ethics Training**

In September 2013, legal staff provided ethics training to all OIG employees required to file financial disclosure forms. The training focused on conflicts of interest; outside employment activities; impartiality in the performance of one's official duties; conserving government resources, including travel spending and government credit card purchases; and the duty to report fraud, waste, and abuse.

## REGULATORY REVIEW

During this reporting period, the OIG reviewed and commented on 22 NASA directives and regulations. Significant directives and regulations reviewed included the following:

### **NPD 1000.5B, Policy for NASA Acquisition**

This NASA Policy Directive (NPD) provides the overall policy framework for NASA's strategic acquisition process, which supports obtaining or advancing the development of the systems, research, services, construction, and supplies necessary to fulfill the Agency's mission and other activities that advance the Agency's statutory objectives. The OIG reviewed proposed revisions to this NPD and made several recommendations intended to better align the NPD with the Agency's existing strategic sourcing initiatives and efforts, including the NASA Strategic Sourcing Program.

### **NPR 2830.1A, NASA Enterprise Architecture Procedures**

The primary purpose of Enterprise Architecture (EA) is to align all aspects of NASA's business, financial, scientific, and engineering needs with technology infrastructure and resources; to improve the performance of IT; and support NASA's Mission. The OIG reviewed proposed revisions to this NASA Procedural Requirement (NPR) and made several recommendations intended to assist the Agency in more effectively integrating and implementing EA across the Agency, its Centers, and its Mission Directorates. Specifically, the OIG sought improvements to the NPR that will make it more effective in moving the Agency toward the goals identified in the OIG's June 5, 2013, audit report, *NASA's Information Technology Governance* (<http://oig.nasa.gov/audits/reports/FY13/IG-13-015.pdf>).

**NFS 1803.903, Whistleblower Protection**

The OIG reviewed a draft provision of the NASA Federal Acquisition Regulation Supplement implementing the new whistleblower protections for contractor and subcontractor employees under the National Defense Authorization Act for Fiscal Year 2013.

**NPR 1600.3, Paragraph 3.16, Whistleblower Appeal Review Process**

The OIG reviewed a draft of NASA's process to implement Presidential Policy Directive 19, which provided whistleblower protection to national security whistleblowers.

## OUTREACH ACTIVITIES

During this reporting period, the OIG engaged in outreach activities that involved coordination with NASA and with other OIGs and Federal agencies:

- On August 22, 2013, the Office of Management and Planning/Information Technology Services met with the Federal Maritime Commission OIG to provide the organization with recommendations for secure and cost effective IT solutions for sharing, storing, and remotely accessing their mission critical data. The organizations worked together to develop several cost-effective solutions that will satisfy Federal Maritime Commission OIG IT requirements.
- Staff from the OA Financial Management and Mission Support Directorates participated as members of the Council of Inspectors General on Integrity and Efficiency (CIGIE) Grant Reform Working Group. The Working Group was formed in response to OMB's revisions to and consolidation of a variety of Federal policies relating to grants and cooperative agreements.
- On August 20, 2013, OIG legal staff participated in the Curriculum Review Working Group for the periodic refresher training program for OIG law enforcement officers. Conducted by the Inspector General Criminal Investigator Academy under auspices of the CIGIE, the training implements requirements of the Attorney General's guidelines for OIG offices with statutory law enforcement authority.
- On July 25, 2013, the OIG Director of the Human Resources (HR) Division participated in the quarterly CIGIE HR Directors Roundtable hosted by the Department of State OIG. The purpose of the roundtable is to discuss human capital management issues and concerns facing the OIG HR community.
- OA's Financial Management Directorate participated in monthly meetings of the Financial Statement Audit Network. Representatives from the Federal Accounting Standards Advisory Board, Government Accountability Office, OMB, and other Federal OIGs met to discuss current issues in financial management, including impacts of accounting and auditing standards, as well as reporting requirements affecting Federal agency and Government-wide financial statements.

- In May 2013, a member of the OA Financial Management Directorate attended the Single Audit Roundtable at KPMG's offices in Washington, D.C., Representatives from the American Institute of Certified Public Accountants, OMB, other 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.
  - On April 3, 2013, IG Martin and OA's Science and Aeronautics Research Director briefed the Aerospace Safety Advisory Panel on the OIG's Review of NASA's Explosives Safety Program. The group discussed the underlying causes of the deficiencies identified in the audit.
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## 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	28-29
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	3-25
Section 5(a)(2)	Recommendations for Corrective Actions	3-25
Section 5(a)(3)	Prior Significant Audit Recommendations Yet to Be Implemented	37-40
Section 5(a)(4)	Matters Referred to Prosecutive Authorities	42
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	36-41
Section 5(a)(7)	Summary of Significant Audits and Investigations	3-25
Section 5(a)(8)	Total Number of Reports and Total Dollar Value for Audits with Questioned Costs	40
Section 5(a)(9)	Total Number of Reports and Total Dollar Value for Audits with Recommendations that Funds Be Put to Better Use	41
Section 5(a)(10)	Summary of Prior Audit Products for which No Management Decision Has Been Made	41
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	45
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

## Appendix B. Statistical Information

**Table 1: Audit Products and Impact**

During the period April 1 through September 30, 2013, the Office of Audits issued eight products.

REPORT NO. AND DATE ISSUED	TITLE	IMPACT
Space Operations and Human Exploration		
<b>IG-13-022</b> 8/15/2013	Status of NASA's Development of the Multi-Purpose Crew Vehicle	Identified issues and challenges that NASA must address to develop Orion within cost and schedule goals.
<b>IG-13-019</b> 7/8/2013	NASA's Efforts to Maximize Research on the International Space Station	Identified issues and challenges that NASA must address to increase utilization of ISS.
<b>IG-13-016</b> 6/13/2013	NASA's Management of Commercial Orbital Transportation Services and ISS Commercial Resupply Contracts	Assessed progress of the commercial cargo programs and provided suggestions for NASA to reduce financial risk.
Information Technology Security and Governance		
<b>IG-13-021</b> 7/29/2013	NASA's Progress in Adopting Cloud-Computing Technologies	Strengthen IT governance and risk management with respect to cloud computing, mitigate business and IT security risks, and improve contractor oversight.
<b>IG-13-015</b> 6/5/2013	Audit of NASA's Information Technology Governance	Identified changes needed in NASA's IT governance structure to effectively balance compliance, cost, risk, security, and mission success to meet the needs of internal and external stakeholders.
Infrastructure and Facilities Management		
<b>IG-13-014</b> 4/8/2013	NASA's Management of Energy Savings Contracts	We believe the improvements in NASA's oversight of the energy contracts is crucial to ensure the mechanism works as designed.
Financial Management		
<b>IG-13-020</b> 7/18/2013	Audit of Selected NASA Conferences	Identified issues that NASA must address to efficiently and effectively utilize its limited resources when planning and sponsoring conferences.
Other Audit Matters		
<b>IG-13-023</b> 9/26/2013	Evaluation of NASA's Implementation of Executive Order 13526, Classified National Security Information	Identified deficiencies that, if not corrected, increase the risk that personnel may inadvertently misclassify material.

**Table 2: Prior Audit Recommendations Yet to Be Implemented**

As shown in Table 2, 197 of 262 recommendations, from 35 audit reports, remain open. Of these open recommendations, 27 are from 7 reports issued since the last semiannual reporting period.

**a. New Since Last Reporting Period**

REPORT NO. AND DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
Space Operations and Human Exploration					
<b>IG-13-019</b> 7/8/2013	NASA's Efforts to Maximize Research on the International Space Station	7/8/2013	1	0	9/30/2013 <sup>a</sup>
<b>IG-13-016</b> 6/13/2013	NASA's Management of Commercial Orbital Transportation Services and ISS Commercial Resupply Contracts	6/13/2013	1	0	9/1/2013
Information Technology Security and Governance					
<b>IG-13-021</b> 7/29/2013	NASA's Progress in Adopting Cloud-Computing Technologies	7/29/2013	6	0	9/30/2014
<b>IG-13-015</b> 6/5/2013	Audit of NASA's Information Technology Governance	6/5/2013	8	0	5/30/2014
Infrastructure and Facilities Management					
<b>IG-13-014</b> 4/8/2013	NASA's Management of Energy Savings Contracts	4/8/2013	3	1	9/22/2014
Financial Management					
<b>IG-13-020</b> 7/18/2013	Audit of Selected NASA Conferences	7/18/2013	5	0	1/31/2014
Other Audit Matters					
<b>IG-13-023</b> 9/26/2013	Evaluation of NASA's Implementation of Executive Order 13526, Classified National Security Information	9/26/2013	3	0	4/30/2015

<sup>a</sup>The OIG is reviewing management's request for closure.

**b. Reported in Previous Semiannual Reports**

REPORT NO./ DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
Space Operations and Exploration					
<b>IG-11-016</b> 3/15/11	Preparing for the Space Shuttle Program's Retirement: Review of NASA's Controls over Public Sales of Space Shuttle Property	3/15/2011	2	5	10/19/2013
Information Technology Security and Governance					
<b>IG-13-006</b> 3/28/2013	NASA's Process for Acquiring Information Technology Security Assessment and Monitoring Tools	3/15/2013	4	0	9/30/2015
<b>IG-12-017</b> 8/8/12	Review of NASA's Computer Security Incident Detection and Handling Capability	7/17/2012	3	0	9/30/2014
<b>IG-12-006</b> 12/5/11	NASA Faces Significant Challenges in Transitioning to a Continuous Monitoring Approach for Its Information Technology Systems	12/5/2011	7	0	9/30/2013 <sup>a</sup>
<b>IG-11-017</b> 3/28/11	Inadequate Security Practices Expose Key NASA Network to Cyber Attack	3/28/2011	1	2	9/30/2014
<b>IG-10-019</b> 9/14/10	Audit of NASA's Efforts to Continuously Monitor Critical Information Technology Security Controls	9/14/2010	2	0	9/30/2013 <sup>b</sup>
<b>IG-10-013</b> 5/13/10	Review of the Information Technology Security of [a NASA Computer Network]	5/13/2010	2	0	9/30/2013 <sup>c</sup>
<b>IG-10-013-a</b> 7/1/10	Addendum				
Infrastructure and Facilities Management					
<b>IG-13-013</b> 3/27/2013	Review of NASA's Explosives Safety Program	3/27/2013	3	4	3/31/2014
<b>IG-13-007</b> 2/14/13	NASA's Environmental Remediation Efforts at the Santa Susana Field Laboratory	2/14/2013	1	0	TBD
<b>IG-13-008</b> 2/12/13	NASA's Efforts to Reduce Unneeded Infrastructure and Facilities	2/12/2013	5	0	9/1/2014
<b>IG-12-020</b> 8/9/12	NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices	8/9/2012	8	0	3/31/2014
<b>IG-12-008</b> 12/19/11	NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Master Planning	12/19/2011	1	2	3/31/2014
<b>IG-11-024</b> 8/4/11	NASA Infrastructure and Facilities: Assessment of Data Used to Manage Real Property Assets	8/4/2011	1	2	9/30/2013

REPORT NO./ DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
Financial Management					
<b>IG-13-011</b> 03/14/13	Audit of NASA's Compliance with the Improper Payments Information Act for Fiscal Year 2012	3/14/2013	3	0	9/30/2013 <sup>a</sup>
<b>IG-13-005</b> 12/12/12	FY 2012 Financial Statement Audit Management Letter	12/12/12	84	0	11/30/2013
<b>IG-13-003</b> 11/15/12	Audit of the National Aeronautics and Space Administration's Fiscal Year 2012 Financial Statements	11/15/2012	3	0	11/30/2013
<b>IG-13-002</b> 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	10/25/2012	7	0	11/30/2012
<b>IG-12-015</b> 5/1/12	NASA's Efforts to Identify, Report, and Recapture Improper Payments	7/26/2012	4	5	11/30/2013
<b>IG-12-010</b> 2/16/12	Audit of NASA's Purchase and Travel Card Programs	8/31/12	2	13	12/31/2013
Acquisition and Project Management					
<b>IG-12-019</b> 8/3/12	Audit of NASA Grant Awarded to HudsonAlpha Institute for Biotechnology	9/20/2012	4	4	11/23/2013
<b>IG-12-018</b> 7/26/12	Audit of NASA Grants Awarded to the Philadelphia College Opportunity Resources for Education	7/26/2012	4	4	12/31/2012
<b>IG-12-016</b> 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	10/30/2013
<b>IG-12-012</b> 3/6/12	Review of NASA's Lessons Learned Information System	3/6/2012	3	1	10/31/2013
<b>IG-12-013</b> 3/1/12	Audit of NASA's Process for Transferring Technology to the Government and Private Sector	3/1/2012	2	4	1/1/2014

REPORT NO./ DATE ISSUED	TITLE	DATE RESOLVED	NUMBER OF RECOMMENDATIONS		LATEST TARGET CLOSURE DATE
			OPEN	CLOSED	
<b>IG-09-017</b> 7/27/09	Opportunities to Improve the Management of the Space Flight Awareness Honoree Launch Conference Event	7/27/2009	1	0	1/31/2014
Other Audit Matters					
<b>IG-11-026</b> 9/12/11	NASA's Grant Administration and Management	3/8/2012	5	4	10/30/2013
<b>IG-11-023</b> 8/10/11	NASA's Payments for Academic Training and Degrees	10/27/2011	6	0	11/1/2013
<b>IG-11-004</b> 12/13/10	Review of the Jet Propulsion Laboratory's Occupational Safety Program	1/18/2011	1	14	10/31/2013

<sup>a</sup>The OIG is reviewing management's request for closure.

<sup>b</sup>The OIG closed both recommendations after the end of the reporting period on October 23, 2013.

<sup>c</sup>The OIG is working with management to determine a revised target closure date.

**Table 3: Audits with Questioned Costs**

	NUMBER OF AUDIT REPORTS	TOTAL QUESTIONED COSTS
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	n/a
No management decision at end of period		
Less than 6 months old	0	n/a
More than 6 months old	0	n/a

**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	n/a
No management decision at end of period		
Less than 6 months old	0	n/a
More than 6 months old	0	n/a

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

Total audits reviewed		31
Audits with findings		26
FINDINGS AND QUESTIONED COSTS		
	NUMBER OF FINDINGS	QUESTIONED COSTS
Management decisions pending, beginning of reporting period	288	\$16,303,745
Findings added during the reporting period	49	\$433,275
Management decision made during reporting period	(59)	
Agreed to by management		(\$743,285)
Not agreed to by management		(\$1,011,133)
Management decisions pending, end of reporting period	278	\$14,982,602

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

**Table 6: Legal Activities and Reviews**

FOIA matters	18
Appeals	0
Inspector General subpoenas issued	78
Regulations reviewed	22

**Table 7: Office of Investigations Activities****a. Complaint Intake Disposition**

SOURCE OF COMPLAINT	ZERO FILES <sup>a</sup>	ADMINISTRATIVE INVESTIGATIONS <sup>b</sup>	MANAGEMENT REFERRALS <sup>c</sup>	PRELIMINARY INVESTIGATIONS <sup>d</sup>	TOTAL
Hotline	31	13	4	18	<b>66</b>
All others	51	26	6	94	<b>177</b>
<b>Total</b>	<b>82</b>	<b>39</b>	<b>10</b>	<b>112</b>	<b>243</b>

<sup>a</sup>Zero files are complaints for which no action is required or that are referred to NASA management for information only or to another agency.

<sup>b</sup>Administrative investigations include noncriminal matters initiated by OI as well as hotline complaints referred to OA.

<sup>c</sup>Management referrals are complaints referred to NASA management for which a response is requested.

<sup>d</sup>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 <sup>a</sup>	33
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<sup>a</sup>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	104
Administrative investigations	57
<b>Total</b>	<b>251</b>

**d. Qui Tam Investigations**

Opened this reporting period	2
Pending at end of reporting period	5

Note: The number of qui tam investigations is a subset of the total number of investigations opened and pending.

**e. Judicial Actions**

Cases referred	53
Indictments/criminal informations	14
Convictions/plea bargains	15
Sentencing	17
Civil settlements/judgments	4

**f. Administrative Actions**

Referrals to NASA management for review and response	19
Referrals to NASA management – information only	11
Referrals to the Office of Audits	5
Referrals to Security or other agencies	6



Recommendations to NASA management for disciplinary action	
Involving a NASA employee	11
Involving a contractor firm	4
Involving a contractor employee	1
Other	1
<b>Total</b>	<b>17</b>
Administrative/disciplinary actions taken	
Against a NASA employee	17
Against a contractor employee	4
Procedural change implemented	6
<b>Total</b>	<b>27</b>
Recommendations to NASA management on program improvements	
Matters of procedure	4
Safety issues or concerns	2
<b>Total</b>	<b>6</b>
Suspensions or debarments from Government contracting	
Involving an individual	4
Involving a contractor firm	4
<b>Total</b>	<b>8</b>

#### g. Investigative Receivables and Recoveries

Judicial	\$14,120,144
Administrative <sup>a</sup>	\$901,374
<b>Total</b>	<b>\$15,021,518</b>
<b>Total to NASA</b>	<b>\$1,049,317</b>

<sup>a</sup> 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 99 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**

	AMOUNTS IN ISSUED REPORTS	AMOUNTS AGREED TO <sup>a</sup>
Questioned costs	\$40,427,000	\$4,327,000
Funds to be put to better use	\$0	\$199,959,000

Notes: This data is provided to the NASA OIG by DCAA and may include forward pricing proposals, operations, incurred costs, cost accounting standards, and defective pricing audits. Because of limited time between availability of management information system data and legislative reporting requirements, there is minimal opportunity for DCAA to verify the accuracy of reported data. Accordingly, submitted data is subject to change based on subsequent DCAA authentication. The data presented does not include statistics on audits that resulted in contracts not awarded or in which the contractor was not successful.

<sup>a</sup> 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 OIGs 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 Audits 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.

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

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

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

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

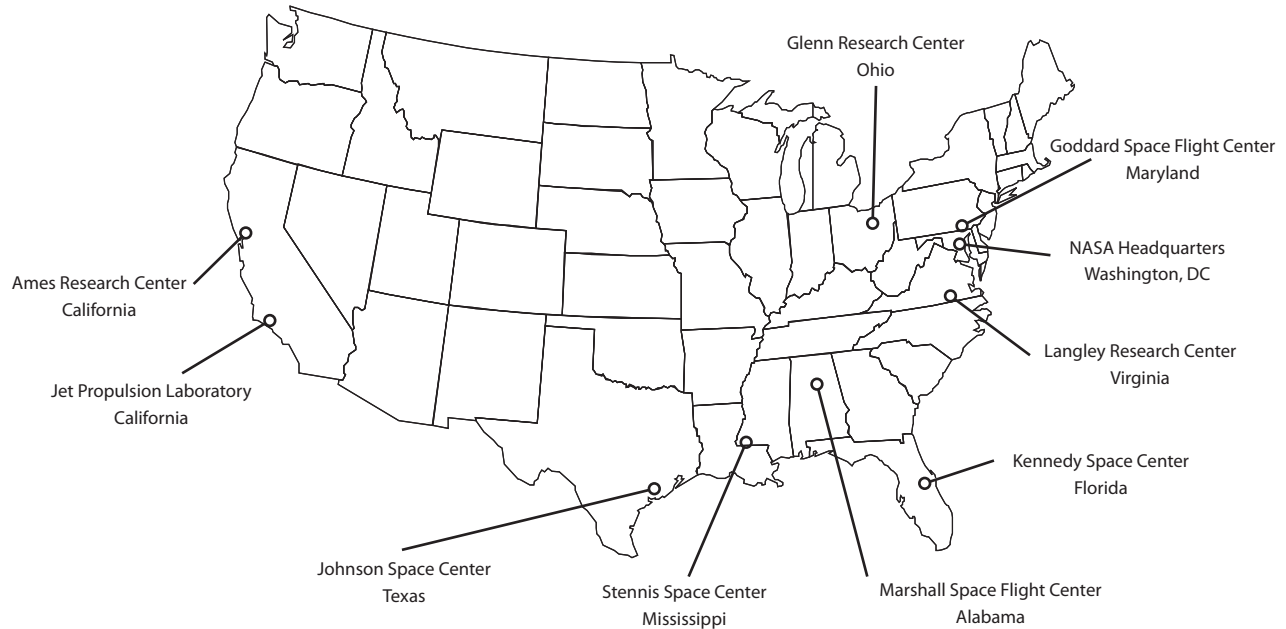
**Unsupported Cost (the IG Act of 1978 definition).** An unsupported cost is a cost that is questioned by the OIG because the OIG found that, at the time of the audit, the cost was not supported by adequate documentation.

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## Appendix E. Acronyms

<b>ACES</b>	Agency End User Services Contract
<b>CASIS</b>	Center for the Advancement of Science in Space
<b>CIGIE</b>	Council of the Inspectors General on Integrity and Efficiency
<b>CIO</b>	Chief Information Officer
<b>DCAA</b>	Defense Contract Audit Agency
<b>DIG</b>	Deputy Inspector General
<b>DOJ</b>	Department of Justice
<b>EA</b>	Enterprise Architecture
<b>ESA</b>	European Space Agency
<b>FAR</b>	Federal Acquisition Regulation
<b>FISMA</b>	Federal Information Security Management Act
<b>FY</b>	Fiscal Year
<b>GAO</b>	Government Accountability Office
<b>GSDO</b>	Ground Systems Development Operations System
<b>HR</b>	Human Resources
<b>IG</b>	Inspector General
<b>IPA</b>	Intergovernmental Personnel Act Agreement
<b>IPERA</b>	Improper Payments Elimination and Recovery Act
<b>IPIA</b>	Improper Payments Information Act
<b>ISS</b>	International Space Station
<b>IT</b>	Information Technology
<b>IV&amp;V</b>	Independent Verification & Validation
<b>MPCV</b>	Multi-Purpose Crew Vehicle
<b>NFS</b>	NASA FAR Supplement
<b>NPD</b>	NASA Policy Directive
<b>NPR</b>	NASA Procedural Requirement
<b>OA</b>	Office of Audits
<b>OI</b>	Office of Investigations
<b>OIG</b>	Office of Inspector General
<b>OMB</b>	Office of Management and Budget
<b>OMP</b>	Office of Management and Planning
<b>ORCA</b>	Online Representations and Certifications Application
<b>OSIRIS-Rex</b>	Origins Spectral Interpretation Resource Identification Security Regolith Explorer
<b>SBIR</b>	Small Business Innovation Research
<b>SLS</b>	Space Launch System

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