NASA OFFICE OF INSPECTOR GENERAL

SEMIANNUAL REPORT

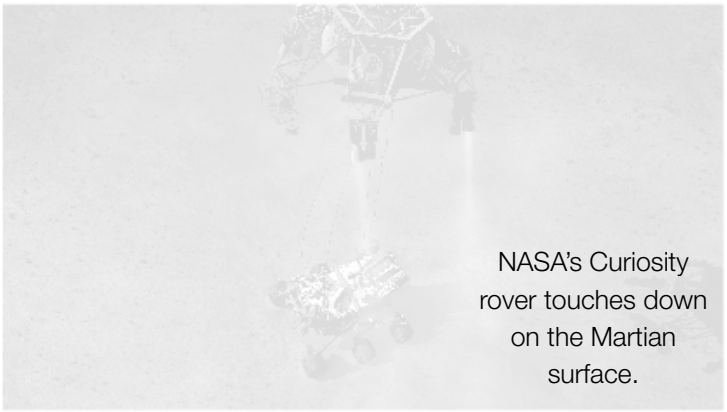
April 1–September 30, 2012

Mars Atmosphere and Volatile Evolution (MAVEN) Project.

NASA's twin Radiation Belt Storm Probes launched aboard an Atlas V rocket.

X-48B Blended Wing Body aircraft.

SpaceX Dragon commercial cargo craft.



NASA's Curiosity rover touches down on the Martian surface.

FROM THE INSPECTOR GENERAL

Over its 50-year history, NASA has been at the forefront of groundbreaking scientific discoveries and technical innovations. For example, in August 2012 NASA celebrated the successful landing of its Curiosity rover on Mars, a tremendous scientific accomplishment for which the Agency, its employees, and its contractors should rightfully be proud.

Unfortunately, in addition to their scientific accomplishments, many NASA projects share another less positive trait – they often cost significantly more to complete and take longer to launch than originally promised. For example, Curiosity's mission to the Red Planet came 2 years behind schedule resulting in an 83 percent increase in development costs.

In an effort to gain a better understanding of the challenges facing NASA project managers in bringing projects to completion on cost and schedule, the Office of Inspector General (OIG) conducted an audit in which we interviewed 85 individuals involved in all levels of project development from both inside and outside the Agency including current and former Administrators, Associate Administrators, Center Directors, and project managers and staff. Based on these interviews, the OIG identified four issues that appear to present NASA with its greatest challenges to successfully meeting cost, schedule, and performance goals:

- Optimistic Agency Culture
- Underestimating Technical Complexity
- Funding Instability
- Limited Project Manager Opportunities

A summary of this important review can be found on page 3 of this Semiannual Report.

This Semiannual Report summarizes the OIG's activities and accomplishments from April 1 through September 30, 2012. We hope that you find it informative.

Paul K. Martin
Inspector General
October 31, 2012

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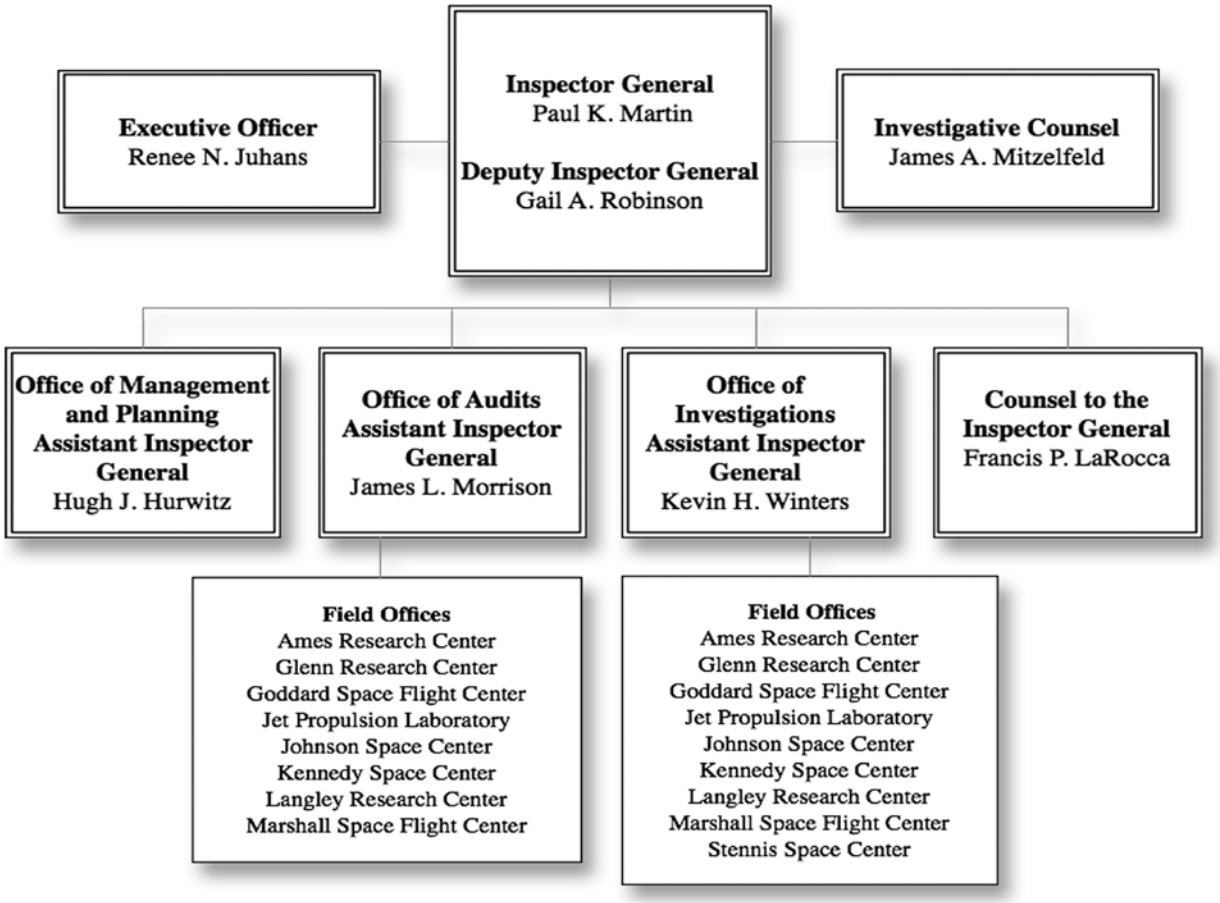


THE NASA OFFICE OF INSPECTOR GENERAL (OIG) conducts audits, reviews, and investigations of NASA programs and operations to prevent and detect fraud, waste, abuse, and mismanagement and to assist NASA management in promoting economy, efficiency, and effectiveness. The OIG's fiscal year (FY) 2012 budget of $38.3 million includes $37.3 million to support the work of 202 employees in their audit, investigative, and administrative activities and a $1 million one-time transfer from NASA to the OIG to enable us to commission an independent assessment of the Agency's strategic direction and management in response to a congressional directive.

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 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 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 (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 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 (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.

AUDITS AND INVESTIGATIONS

Acquisition and Project Management

As leaders across Government seek ways to reduce Federal spending and lower the country's budget deficit, effective contract and project management at NASA is more critical than ever. During this reporting period, the OIG focused its audit 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 operations.

NASA's Challenges to Meeting Cost, Schedule, and Performance Goals

Throughout its 50-year history, NASA has been at the forefront of science and space exploration, and the Agency's missions have resulted in numerous scientific discoveries and technological innovations. Unfortunately, in addition to their scientific accomplishments, many NASA projects share less positive traits – they often cost significantly more to complete and take longer to launch than originally planned.

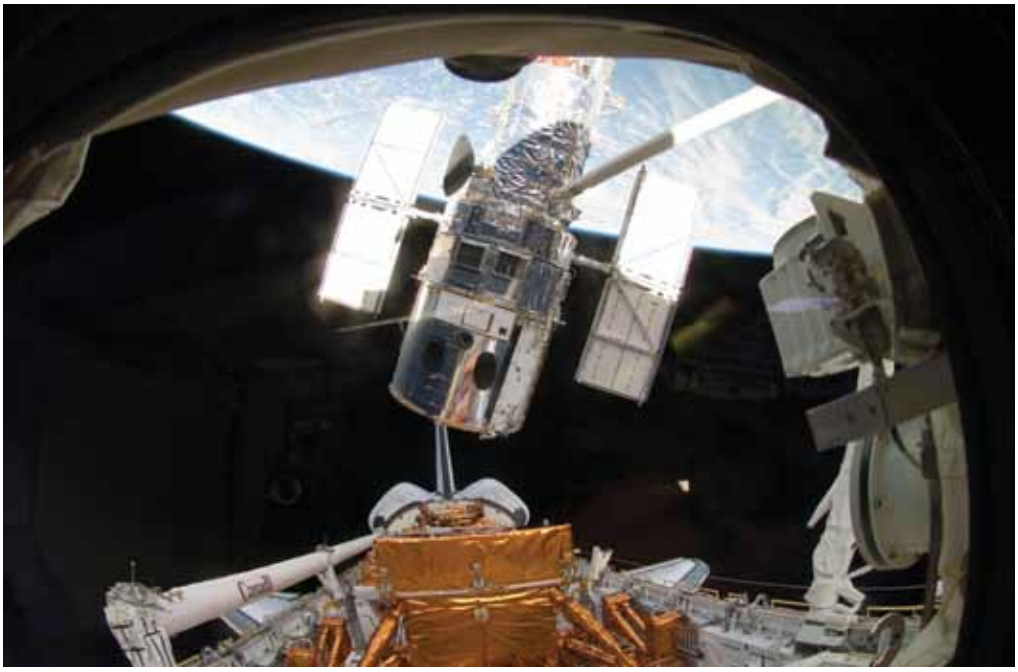
NASA Astronaut "Buzz" Aldrin and the Lunar Excursion Module Eagle (far right) on the Moon in July 1969.
Source: NASA

In an effort to gain a better understanding of the major challenges facing NASA project managers, the OIG interviewed 85 individuals involved in all levels of project development from both inside and outside the Agency, including current and former Administrators, Associate Administrators, Center Directors, and project managers and staff. Based on these interviews, the OIG identified four issues that appear to present NASA with its greatest challenges to successfully meeting cost, schedule, and performance goals:

- Optimistic Agency Culture – A culture of optimism and a "can-do" spirit permeate all levels of the NASA workforce. Although essential to overcoming the extraordinary technological challenges inherent in the development of the unique, first-of-their-kind space systems for which NASA is known, this same optimism can lead managers to overestimate their ability to overcome the risks inherent in delivering such projects within a set budget and timetable. To underscore this point, when asked whether their projects had

been successful every project manager we interviewed answered in the affirmative, regardless of the project's fidelity to cost and schedule goals.

- Underestimating Technical Complexity – Project managers cited the technical complexity inherent in most NASA projects as a major challenge to meeting cost and schedule goals. Because NASA projects often involve new and unique technologies, managers lack historical data, cost models, lessons learned, and other information to help estimate the effort that will be needed to develop the required technologies. In addition, NASA projects often involve combining several interdependent technologies and the resulting complexities can be difficult to predict. Moreover, unlike land-based systems NASA systems function remotely in space where repair or replacement is extremely difficult or impossible and consequently require more testing than other types of development efforts. Finally, because space systems are often one-of-a-kind instruments, NASA cannot produce sufficient quantities to benefit from economies of scale in which the average cost would decrease as the quantity manufactured increases.



Space Shuttle Atlantis' robotic arm lifts the refurbished Hubble Space Telescope from the Shuttle's cargo bay on May 19, 2009.
Source: NASA

- Funding Instability – More than 75 percent of the individuals we interviewed stated that funding instability – whether resulting from decisions made by the President and Congress or internally within NASA – was among the most significant challenges to project management. Inadequate funding in the early phases of a project's life cycle decreases management's ability to address key risks at project inception. Absent sufficient funding, project

managers may need to defer development of critical technologies to a time when integration of those technologies may be more difficult or when the costs of material and labor may be greater.

- Limited Project Manager Opportunities – Most project managers and senior officials we spoke with said that experience and on-the-job training are key factors in a project manager's ability to manage cost, schedule, and performance goals effectively. However, they expressed concern that NASA does not have a sufficient number of small missions to provide adequate training grounds for new project managers; that the Agency's in-house capabilities have declined as it increasingly relies on contractors to support project development; and that NASA engineers spend most of their time overseeing contractor efforts rather than building spaceflight components and therefore have limited opportunities to gain practical "hands-on" experience.

Although NASA has made positive strides to improve project outcomes, the Agency needs a "unity of effort" – including strong, consistent, and sustained leadership by the President, Congress, and Agency managers – to meet the challenges outlined in the OIG report and achieve more consistent fidelity to cost and performance goals. Articulating a clear, unified, and sustaining vision for the Agency and then providing the necessary resources to execute that vision is a critical cornerstone of success.

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.

In response to a draft of this report, NASA generally concurred with the challenges we outlined and stated that the Agency has implemented a number of performance improvement actions. Specifically, the Chief Engineer pointed to an increased management focus during the formulation phase, the application of joint confidence levels, and a refined life-cycle review process to guard against making commitments based on overly optimistic plans. He also stated that NASA now uses Formulation Agreements to document agreed-upon expectations between project managers and the Agency.

The Chief Engineer acknowledged that internal and external funding instability impacts project management and stated that NASA has implemented a number of reviews and agreements to establish expectations with project managers to facilitate open discussion and early identification of impacts resulting from changes in

funding due to internal factors. However, he stated that external changes to funding profiles are more difficult to control and the Agency advises project managers to account for continuing resolutions and notify stakeholders when external funding decisions are likely to result in negative outcomes. The Chief Engineer also agreed with the need for maturing and retaining an experienced workforce to lead NASA projects and noted that NASA has been recognized for its project leadership training and other knowledge sharing initiatives.

We agree that these initiatives, if properly implemented, could help NASA mitigate the challenges we identified in this report. We also agree with the Chief Engineer that NASA's culture of optimism is necessary for the Agency to accomplish the challenging tasks it undertakes.

However, the Agency's response did not address our primary conclusion regarding the need for strong leadership by the President, Congress, and the Agency to address these persistent challenges. Without such leadership, it will be difficult for NASA to effectively implement the initiatives the Agency has identified, much less overcome the long-standing challenges to meeting the cost, schedule, and performance goals of the Agency's science and space exploration projects.

The OIG plans to conduct additional audit work that more closely examines the challenges identified in our report and offers specific recommendations for management action.

NASA's Challenges to Meeting Cost, Schedule, and Performance Goals (IG-12-021, September 27, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-021.pdf

NASA Research Announcements

One way that NASA's Mission Directorates support their research, development, and education efforts is through NASA Research Announcements (NRAs) – solicitations that announce research opportunities and provide a formal mechanism for corporations, universities, and research institutions to submit project ideas. Between 2006 and 2010, NASA spent approximately $1.3 billion on NRA awards across its Mission Directorates.

During this period, the Aeronautics Research Mission Directorate (ARMD) funded 447 NRA awards valued at $434.7 million to advance aeronautics research and development, approximately $34.4 million of which was funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act). For future years, ARMD plans an annual funding level of $75 million for NRA awards.

The OIG examined whether the research funded by these NRA awards advanced NASA's aeronautics research goals and whether associated costs were allowable and properly supported. We found that NASA's aeronautics-related NRA awards, including awards funded by the Recovery Act, aligned with one or more goals set forth in ARMD project plans and, according to NASA technical experts, expanded the knowledge needed to advance those goals. However, we also found that 18 of the 43 awards (42 percent) contained approximately $2.4 million in questioned costs, including unallowable and unsupported costs. Based on our sample results, we estimated that ARMD's 447 NRA awards during this 5-year period contained $25.2 million in unallowable and unsupported costs. In addition, we project that by addressing the deficiencies we identified, NASA could avoid awarding approximately $3.6 million in unallowable or unsupported costs in ARMD NRA awards annually.

We recommended that the Assistant Administrator for Procurement provide additional training to NASA procurement personnel to ensure that costs are allowable and properly supported. The Assistant Administrator agreed to take corrective actions that met the intent of our recommendations.

NASA's Use of Research Announcement Awards for Aeronautics Research (IG-12-011, April 30, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-011.pdf

Oversight and Management of NASA Grants

NASA awards approximately $500 million in grants annually and faces the ongoing challenge of ensuring these grants are administered appropriately and are accomplishing their stated goals and objectives. In September 2011, the NASA OIG reported that NASA did not have an adequate system of controls in place to ensure proper administration and management of its grant program and that as a result some grant funds were not being used for their intended purposes.[1] Subsequently, we conducted three audits examining whether particular NASA grants are being used for their intended purpose and whether associated costs are allowable, reasonable, and in accordance with applicable laws, regulations, guidelines, and terms of the grants. Below we summarize the results of these audits.

Philadelphia College Opportunity Resources for Education

Philadelphia College Opportunity Resources for Education (CORE) is a not-for-profit organization that provides college scholarships to high school seniors who reside in Philadelphia, plan to attend a Pennsylvania college or university full time, and have a financial need. CORE received $1 million grants from NASA in September 2009 and August 2010.

[1] NASA OIG, "NASA's Grant Administration and Management" (IG-11-026, September 12, 2011).

We found that CORE fulfilled the stated goals and objectives of the grants by awarding approximately $1.8 million from NASA funds in scholarships to eligible high school students. However, we identified a number of deficiencies in CORE's accounting and internal control environment, as well as areas where NASA could improve its grant management policies and procedures. Specifically, CORE failed to obtain a required audit of its operations for 2010, inaccurately recorded and reported certain financial information, charged $60,511 in unallocable or unallowable expenditures, and failed to maintain appropriate time and attendance documentation to support personnel charges totaling $156,409. We also found that CORE failed to file or was late in filing required financial and inventory reports and inappropriately displayed NASA's name and insignia on its website.

To remedy these deficiencies, we recommended that NASA's Assistant Administrator for Procurement strengthen policies and procedures to ensure that grantees obtain required audits, update the NASA Grant and Cooperative Agreement Handbook (Grant Handbook) to reflect the current practice of the NASA Shared Services Center (NSSC) regarding inventory reports, and work with the Associate Administrator for Communications to clearly delineate in the Grant Handbook and award documentation the requirements for use of NASA's logo and insignia. We also recommended that the NSSC Executive Director and the Associate Administrator for Education work together to ensure that CORE remedies the $156,409 in unsupported costs and $60,511 in unallocable or unallowable expenditures we identified, verify that CORE did not charge expenditures to both NASA and Department of Education grants, and ensure that CORE submits all required reports. Finally, we recommended that prior to awarding any additional grants to CORE the Executive Director and the Associate Administrator ensure that CORE has strengthened and formally documented its internal controls to comply with NASA and Office of Management and Budget (OMB) requirements.

The Assistant Administrator agreed to take corrective actions that met the intent of our recommendations. Accordingly, we will close the recommendations upon receipt and verification of supporting documentation.

Audit of NASA Grants Awarded to the Philadelphia College Opportunity Resources for Education (IG-12-018, July 26, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-018.pdf

HudsonAlpha Institute for Biotechnology

HudsonAlpha is a not-for-profit organization in Huntsville, Alabama, whose mission is to conduct genomics-based research to improve human health, spark economic development, and provide educational outreach to nurture the next generation of biotech researchers and entrepreneurs. Pursuant to a congressional earmark,

NASA awarded a $1 million grant to HudsonAlpha in July 2010. The purpose of the grant was to foster a solid foundation in genetics and biotechnology (collectively referred to as bioscience) for young students while exposing older students to emerging research, applications, and career possibilities in the field.

We found that HudsonAlpha generally managed the grant in accordance with its terms and conditions and applicable laws, regulations, and guidelines. Specifically, HudsonAlpha had a strong system of accounting and internal controls, adequately accounted for expenditures, properly managed its grant budget, and fulfilled performance goals. However, we identified several areas of concern related to HudsonAlpha's management of the grant (employee fringe benefits claims; adjustment of indirect cost rates; and timely submission of required financial reports) and the timeliness of NASA's grant closeout process.

To address these concerns, we recommended that the Assistant Administrator for Procurement implement a series of corrective actions, including providing enhanced training programs for NASA procurement personnel and discontinuing the practice of suspending the grant closeout process until all audits have been completed. In addition, we recommended that the Executive Director of the NSSC take action to ensure costs charged to the grant were appropriate and to establish procedures that will address our concerns with regard to future grants.

In response, the Assistant Administrator for Procurement stated that the NASA Grant Handbook will be revised and that he will advise the NSSC to review its local closeout procedures and remove any requirements or guidance that conflicts with the Grant Handbook. The Executive Director also agreed to take the suggested corrective actions in response to most of our other recommendations. Although our report states that the recommendation to the Executive Director to establish controls in the closeout process and update the corresponding NSSC Service Delivery Guide remained unresolved, the Executive Director subsequently agreed to take those actions, thus resolving that recommendation.

Audit of NASA Grant Awarded to HudsonAlpha Institute for Biotechnology (IG-12-019, August 3, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-019.pdf

Alabama Space Science Exhibit Commission's U.S. Space and Rocket Center

The Alabama Space Science Exhibit Commission's U.S. Space and Rocket Center (Rocket Center) in Huntsville, Alabama, is the official visitor information center for Marshall Space Flight Center and the site of Space Camp®, a program founded in 1982 to promote the study of math, science, and technology using classroom instruction and hands-on activities to teach teamwork, decision-making, and leadership. Between July 2005 and September 2009, NASA awarded three grants totaling $5,271,121 to the Rocket Center for a variety of purposes, including the restoration of the Center's Saturn V rocket exhibit, the development of educational exhibits, upgrades to the Space Camp mission simulation program, and an educational workshop.

We found that the Rocket Center fulfilled the grants' performance goals, properly managed the associated budgets, timely and accurately filed the required financial and performance reports, maintained a strong system of accounting and internal controls, appropriately requested reimbursement for allowable and reasonable costs, and adequately accounted for expenditures. However, we also found that NASA needs to strengthen its policies, procedures, and internal controls to ensure that it uses contracts, grants, and cooperative agreements in the appropriate circumstances and needs to develop a standard process to assess a potential grantee's financial condition prior to grant award. We recommended corrective action to address these issues and the Assistant Administrator for Procurement agreed to act on our recommendations.

Saturn V Rocket Exhibit at the Rocket Center in Huntsville, Alabama.
Source: U.S. Space and Rocket Center

Audit of NASA Grants Awarded to the Alabama Space Science Exhibit Commission's U.S. Space and Rocket Center (IG-12-016, June 22, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-016.pdf

University Proposes Administrative Remedy

A NASA OIG investigation revealed that Texas Southern University failed to comply with cost-sharing provisions of a cooperative agreement with NASA to educate and train university students in the life sciences. Following the OIG investigation, the

University proposed an administrative remedy whereby it would fund the fifth and sixth years of the agreement at no cost to NASA, thereby reducing NASA's overall costs under the agreement by $1.4 million.

Government Contractor Enters Civil Settlement

In July 2012, Analytical Services and Materials, Inc. (AS&M) agreed to pay $613,789 to settle allegations that it submitted erroneous invoices for engineering and technical services it provided to NASA's Dryden Flight Research Center from February 2003 until January 2008. The invoices included charges submitted by an employee of AS&M for work he did not perform.

Government Contractor Agrees to Civil Settlement

In August 2012, a company that had obtained contracts from NASA and several other Federal agencies agreed to pay the Federal Government $7.75 million in a civil settlement following an investigation into the contractor's Online Representations and Certifications Application (ORCA) forms. On the forms, the contractor – MTS Systems Corporation – stated that it had not been convicted of or had a civil judgment rendered against it for fraud or making false statements. However, the contractor had previously entered into a plea agreement related to false export control filings with the Department of Commerce. The NASA OIG worked with the OIGs of the Departments of Health and Human Services, Energy, Interior, Defense, Agriculture, and Commerce, as well as the Federal Bureau of Investigation, Air Force Office of Special Investigations, and U.S. Army Criminal Investigation Command on this investigation.

Former NASA Program Manager Pleads Guilty to Conflict of Interest

In September 2012, a former program manager at Langley Research Center pleaded guilty in U.S. District Court for the Eastern District of Virginia to charges that he violated 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. The employee was sentenced to 1 day of incarceration and 1 year of probation and fined $2,500.

Former NASA Scientist Enters Pretrial Diversion Program

In August 2012, a former Langley Research Center scientist entered a Pretrial Diversion Program after agreeing that he had violated Federal conflict of interest laws. An investigation by the NASA OIG found that shortly before retiring from NASA the employee drafted a statement of work creating a position for himself with a NASA contractor. Upon retiring from NASA, the scientist went to work for the contractor.

Former Contractor Employee Receives Deferred Adjudication

In September 2012, a former Johnson Space Center contractor employee was sentenced in a Texas State court to 2 years of probation and 100 hours of community service and ordered to pay $2,000 in restitution. The sentencing resulted from a NASA OIG investigation that found the employee had submitted fraudulent travel vouchers in connection with his work for NASA.

Technology Firm and Principals Suspended from Federal Procurements

As a result of an investigation by the NASA OIG and Naval Criminal Investigative Service, a Georgia-based technology firm and two of its principals have been suspended from participating in Federal procurements. The investigation revealed that the principals had failed to disclose that they were primarily employed by a university when they submitted proposals to participate in the NASA and Navy Small Business Innovation Research (SBIR) programs. SBIR program regulations require disclosure of the principals' primary employment in the proposals.

Contract Canceled for Engineering Services Company

In September 2012, NASA and Pyxisvision Inc. agreed to a no-cost cancellation of its SBIR contract with Glenn Research Center after a NASA OIG investigation found that the engineering services company failed to disclose its affiliation with a larger company in its SBIR proposal. Based on this affiliation, Pyxisvision was not eligible for the contract because it did not meet the definition of a small business (500 or fewer employees) as required by SBIR program rules.

Ongoing Audit Work

NASA's Mars Atmosphere and Volatile Evolution Project

The Mars Atmosphere and Volatile Evolution (MAVEN) mission is the second mission of NASA's Mars Scout Program and the first devoted to understanding the Martian upper atmosphere. The Project, which has a life-cycle cost estimate of

$671.2 million, recently completed a major milestone to validate design plans and authorize the manufacturing of hardware. MAVEN is relying on seven heritage technologies, which may need some modifications to their form, fit, and function to meet the Project's mission needs. In addition, like all Mars missions, the Project has schedule constraints due to a launch window that occurs only once every 26 months. We are evaluating NASA's management of the MAVEN Project.

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, global measurements of atmospheric carbon dioxide with the hope of improving predictions of the impact on Earth's climate of future atmospheric carbon dioxide increases. After both the first OCO 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. This decision altered the cost, schedule, and performance metrics for the Project. We are examining the Agency's efforts to meet these revised metrics, as well as whether NASA has properly tracked and accounted for Recovery Act funds associated with the Project.

NASA's Awards to Small and Disadvantaged Businesses

The Small Business Act seeks to help small and disadvantaged businesses compete for Federal contracts. In FY 2011, NASA awarded about 3,000 contracts valued at $2 billion to firms designated as small or disadvantaged businesses. We are evaluating NASA's oversight of these awards, including examining whether they contain unallowable or unsupported costs; whether contractors met the Agency's technical, cost, and schedule requirements; and whether NASA has adequate and effective controls to manage the risk of fraud and abuse.

NASA's Management of Energy Savings Performance Contracts

The Federal Government is the Nation's largest energy consumer. Executive Order 13123, issued in 1999, required agencies to reduce energy consumption 35 percent by 2010 from a 1985 baseline. In 1986, Congress authorized agencies to use energy savings performance contracts to finance energy efficiency improvements. By law, annual payments for these contracts are not to exceed the annual savings generated by the improvements. Between 1999 and 2011, five NASA Centers awarded energy savings contracts worth more than $56 million with guaranteed savings of more than $58 million. This audit will evaluate whether NASA has effectively managed these contracts to ensure that payments have not exceeded the energy savings realized by the Agency.

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 criteria outlined in their contracts. Our audit will examine whether NASA's use of award-fee contracts 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, OMB tasked 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 will evaluate NASA's implementation of this Program to determine whether it has resulted in cost savings for the Agency.

Space Operations and Exploration

Since NASA's establishment over 50 years ago, human space flight has evolved from the Apollo era to development of a new heavy-lift rocket. With the retirement of the Space Shuttle Program last year, the emergence of commercial companies seeking to provide access to the International Space Station (ISS) and low Earth orbit, and development of new technologies for future long-term exploration, NASA's space exploration challenges have become increasingly complex.

NASA's Decision to Modify the Ares I Mobile Launcher to Support the Space Launch System

Originally designed to support the Constellation Program's Ares I rocket, NASA completed construction of the Mobile Launcher in August 2010 at a cost of $234 million. However, the NASA Authorization Act of 2010 (the Act) canceled the Constellation Program and directed NASA to design a Space Launch System (SLS) that contained heavy-lift rockets capable of deep space exploration. The Act directed NASA to use, to the extent practicable, existing investments and infrastructure in developing and operating the SLS.

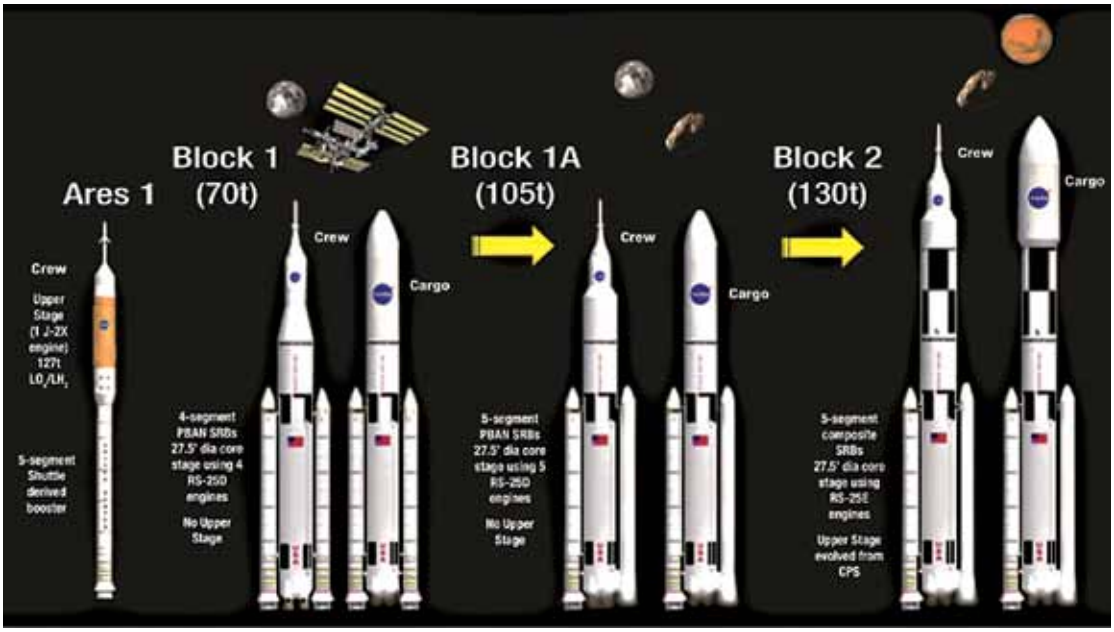
The Ares I Mobile Launcher at Kennedy Space Center on November 30, 2011.
Source: Mobile Launcher Project

In June 2011, NASA decided to modify the Mobile Launcher to support the SLS at a cost of $54 million rather than build a new launch platform or modify one of the three mobile launch platforms previously used by the Space Shuttle Program. This audit examined whether NASA sufficiently evaluated all possible alternatives to ensure that modifying the Ares I Mobile Launcher was in the best interests of the Government.

We found that modifying the Mobile Launcher is both feasible and the most cost-effective option for launching at least the initial versions of the SLS vehicles. However, we also found that further assessments will be needed as the SLS evolves and its design solidifies.

NASA's decision to modify the Mobile Launcher was supported by two trade studies concluding that the Agency could strengthen and modify the Mobile Launcher to support the heavier weight and additional thrust of the SLS. However, both studies were based on preliminary assumptions and limited information about the configuration of the SLS. Accordingly, they may not have addressed all challenges and costs associated with launching larger versions of the SLS vehicles.

In addition, the three components of NASA's planned deep space exploration missions – the SLS, the Orion Multi-Purpose Crew Vehicle, and the Ground Systems Development and Operations programs – are still in the relatively early stages of development. Successful integration of these three elements will require an interdependent management structure to ensure the programs are effectively communicating their individual and collective requirements.



Comparison of Ares I launch vehicle and planned versions of the SLS.

NASA's Plans to Modify the Ares I Mobile Launcher in Support of the Space Launch System (IG-12-022, September 25, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-022.pdf

Apollo 11 Samples Returned to NASA

On May 31, 2012, Assistant Inspector General for Investigations (AIGI) Kevin Winters returned to NASA lunar samples collected by astronauts Neil Armstrong and Buzz Aldrin during the Apollo 11 mission. Mounted on a commemorative plaque, the samples were presented to the government of Nicaragua in the 1970s by President Nixon as a goodwill gesture. Later, the plaque was stolen and ended up in the hands of a Las Vegas casino owner. Following his death, the casino owner's estate contacted the OIG in an effort to authenticate the samples. The lunar samples are in NASA's custody while discussions with the U.S. Department of State are ongoing.

Alaska Moon Rock Recovered

In September 2012, a civil law suit filed by Coleman Anderson against the State of Alaska was dismissed. Anderson was seeking title to a plaque containing lunar material. President Nixon presented the plaque, known as the Alaska Moon Rock, to the State of Alaska in 1969. Anderson claimed that he found the plaque in the early 1970s, abandoned in the rubble of a fire that burned the museum where the plaque had been displayed. 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. In March 2012, the Alaska courts ordered Anderson to turn over the Moon Rock to Johnson Space Center for authentication and custody, which he did.

Valuable Documents Returned to NASA

In August 2012, thousands of historic documents dating from the 1940s to the late 1970s were returned to the custody of NASA and the Jet Propulsion Laboratory (JPL) as a result of investigative efforts of the NASA OIG. The documents were part of a collection of items that belonged to a former JPL employee and had been offered for sale on craigslist by the employee's great-grandson. The documents include reports from Mariner and Ranger missions; technical documents and drawings related to the Sergeant missile system; photographs of performance tests; and original documents signed by NASA legends Theodore Von Karman, Frank Malina, and William Pickering.

Ongoing Audit Work

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

Completed in 2011 at a cost of nearly $60 billion, the ISS is 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 and this audit is examining NASA's progress in maximizing both NASA and non-NASA 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 in response to the Act. We will also examine whether NASA has properly accounted for its use of Recovery Act funds on the Program.

NASA's Commercial Spaceflight Development Programs

Since the Space Shuttle's retirement in July 2011, NASA has relied primarily on the Russians to send crew to the ISS. This audit is assessing NASA's management of programs initiated to provide U.S.-based alternatives for reaching the ISS. Given the importance of commercial space programs in meeting the Agency's human exploration needs, the inherent technological challenges of developing the systems, and the likelihood of constrained future funding, it is imperative that the Agency meet its cost, schedule, and performance goals for its cargo and crew programs.

Infrastructure and Facilities Management

The NASA Authorization Act of 2010 directed the NASA Administrator to undertake a comprehensive study examining the Agency's institutional assets, paying particular attention to identifying and removing unneeded or duplicative infrastructure. NASA completed the study in February 2012 and reported that it will develop a framework for how the Agency plans to address its infrastructure challenges in the future. In light of the enormity of NASA's infrastructure challenge, the OIG is focusing significant resources on this topic.

NASA's Real Property Leasing Practices

NASA is the ninth largest property holder in the Federal Government, controlling approximately 5,400 buildings and structures that support the Agency's research, development, and flight activities. These assets occupy 44 million square feet and would cost an estimated $29 billion to replace. Given the programmatic and fiscal challenges facing NASA, Agency managers must balance the need to reduce NASA's real property footprint with ensuring that NASA retains currently underused facilities that it may need to support future missions. In this audit, we examined NASA's leasing practices for its underused facilities.

NASA has several options for addressing underused real property, including making the property available for lease to other Federal, state, or private organizations. Properly implemented, leasing can generate revenue to offset facilities operations and maintenance costs. However, Federal law requires NASA to dispose of property for which it does not have a current or future mission use. Moreover, leasing unneeded property impedes the Agency's efforts to reduce its real property footprint. Accordingly, NASA must be careful not to use leasing as a substitute for disposing of underused property for which it has no current or future use.

H211 Alpha Jet Plane at Ames Research Center's Moffett Field.
Source: NASA photograph

We found that while NASA has made improvements to its leasing program in recent years, the Agency faces significant challenges to maximize the benefits of its program. Specifically, NASA had not developed clear guidance to ensure that property identified for leasing had a current or future mission use; lacked a complete inventory of space available for lease as well as an effective marketing program to attract potential tenants; lacked internal controls to ensure that leases provide the

best value to NASA and are fair to potential partners; and did not have guidance to ensure that NASA benefits from in-kind consideration it accepts as part of a leasing arrangement. We concluded that absent better controls and improved guidance NASA will be hard-pressed to maximize the full potential of its leasing program to help reduce the cost of maintaining underused facilities while meeting its obligation to ensure that leasing does not become a substitute for disposing of excess property.

Satellite antennas at Ames, which were to have been used as part of an in-kind consideration agreement. However, approval to use the antennas was not granted and Ames has not realized any benefit from this agreement.
Source: OIG photograph

We recommended that the Agency strengthen its guidance, training, and documentation requirements to ensure it is maximizing benefits from its lease agreements and that the agreements are made in the most transparent manner to ensure fairness to all parties. NASA agreed to take actions to address each of our recommendations.

NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices (IG-12-020, August 9, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-020.pdf

Ongoing Audit Work

NASA's Efforts to Reduce Unneeded and Duplicative Infrastructure

NASA's costs to maintain its vast infrastructure are significant and continue to grow with annual operations and maintenance costs increasing 44 percent ($173 million) since 2005. Numerous studies have identified the need for NASA to reduce the size of its infrastructure, from Government Accountability Office (GAO) testimony in the 1990s that noted major duplication of capabilities to our more recent report assessing the quality of the data used to manage the Agency's real property assets.[2] This audit is evaluating NASA's efforts to reduce unneeded and duplicative test stands, wind tunnels, thermal vacuum chambers, and airfields.

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

From the early 1950s until 2006, NASA developed and tested rocket engines at the Santa Susana Field Laboratory in Ventura County, California. These activities resulted in significant environmental contamination, which by law NASA is required to remedy. In 2010, NASA signed an Administrative Order of Consent for Remedial Action with the State of California that requires the Agency to clean the soil at the site to "background levels," which means restoring the area to its natural state. This standard is more rigorous than would be required by the Federal laws that normally govern such cleanups, and NASA estimates such an effort will cost $209 million. This audit is examining the reasonableness and attainability of NASA's efforts to remedy the environmental contamination at Santa Susana.

[2] NASA OIG, "NASA Infrastructure and Facilities: Assessment of Data Used to Manage Real Property Assets" (IG-11-024, August 4, 2011).

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. Hundreds of thousands of NASA personnel, contractors, academics, and members of the public use these IT systems daily and NASA depends on them to carry out its essential operations. Through our audits and investigations, we have identified systemic and recurring weaknesses in NASA's IT security program that adversely affect the Agency's ability to protect the information and systems vital to its mission. During this semiannual reporting period, we continued to work with NASA to improve security and management controls on its critical IT systems.

NASA's Computer Security Incident Detection and Handling Capability

In this audit, we examined the effectiveness of NASA's Security Operations Center (SOC) in managing the Agency's computer security incident detection and handling program to prevent unauthorized cyber intrusions into Agency networks.

In November 2008, NASA consolidated its former Center-based computer security incident detection and response programs into the SOC in an effort to improve its capability to detect and respond to evolving threats posed by increasingly sophisticated cyber attacks. Located at Ames Research Center, the SOC is intended to provide a single, Agency-wide computer security incident handling capability. In addition, the SOC provides centralized, continuous monitoring of computer network traffic entering and leaving NASA Centers and includes an information system (the Incident Management System) for Agency-wide coordination, tracking, and reporting of IT security incidents.

In general, our audit found that the SOC has improved NASA's computer security incident handling capability by providing continuous incident detection coverage for all NASA Centers. In addition, the SOC's communication processes, including weekly conference calls and security bulletins, were effective for sharing security incident and threat information with responders across the Agency.

However, we also found that the SOC does not currently monitor all of NASA's computer networks. Even though each of the Agency networks we reviewed had its own incident management program that included network monitoring, dedicated staff to respond to incidents, and documented processes, these management programs do not provide the centralized continuous monitoring coverage afforded by the SOC. In addition, NASA needs to increase its readiness to combat sophisticated but increasingly common forms of cyber attack known as Advanced Persistent Threats (APTs). APTs are typically designed to bypass the target's firewalls, intrusion detection system, and other perimeter defenses and often are launched by

well-organized and well-funded individuals or entities. Moreover, even after the target organization addresses the vulnerability that enabled the attack to succeed, the attacker may covertly maintain a foothold inside the target's system for future exploits. The increasing frequency of APTs heightens the risk that key Agency networks may be breached and sensitive data stolen.

To enhance NASA's capability to detect and prevent sophisticated cyber attacks and improve overall SOC availability, the OIG report made three recommendations to the Chief Information Officer (CIO). She concurred with our recommendations and proposed corrective actions that we consider responsive.

Review of NASA's Computer Security Incident Detection and Handling Capability (IG-12-017, August 7, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-017.pdf

Romanian Hacker Pleads Guilty to NASA Computer Intrusions

In June 2012, a Romanian national known as "Tinkode" pleaded guilty in Romanian court to charges of illegally accessing numerous systems belonging to NASA, the Pentagon, the Romanian government, and U.S. commercial entities. The NASA OIG worked with Romanian authorities, the Federal Bureau of Investigation, the U.S. Army Criminal Investigation Division, and the U.S. Attorney's Office for the District of Maryland on this investigation.

NASA Contractor Employee Charged with Illegal Firearm Purchase

In May 2012, a NASA contractor employee was charged in the U. S. District Court of Maryland with the illegal purchase of a firearm. During a child pornography investigation of another individual, the OIG discovered that the contractor employee had served as the "straw purchaser" of a firearm. Specifically, the contractor employee purchased a firearm for the subject of the child pornography investigation, thereby allowing that individual to avoid the required Federal background check.

Hacker Sentenced in Australia

A Singaporean national was sentenced in an Australian court to 3 years in prison after a jury found him guilty of computer intrusions in 2009. The charge stemmed from a joint investigation by the NASA OIG and the Australian Federal Police.

Former NASA Security Guard Charged with Theft

In May 2012, a former security guard at Stennis Space Center was charged in Mississippi State court with felony theft for stealing a token critical to operation of the Center's computer system that controls building access.

Ongoing Audit Work

NASA's Information Technology Security Assessment and Monitoring Tools

NASA has 570 information systems with more than 120,000 devices that connect to NASA's networks. To reduce the risk of unauthorized access, these devices must be regularly monitored and assessed. Because NASA's management of IT security is decentralized, IT security tools are not standard across the Agency and NASA may be missing opportunities to improve efficiency through consolidation of purchases and the identification of redundant investments. In this audit, we are examining whether NASA could improve its IT security processes by standardizing the use of IT security tools across the Centers and Mission Directorates.

NASA's IT Governance Structure

Federal law and NASA policy designate the Agency 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 will examine NASA's IT governance practices and develop recommendations for improvement.

NASA's Compliance with FISMA Requirements for FY 2012

NASA IT systems contain sensitive information that, if improperly released or stolen, could result in significant financial loss or adversely affect national security. This audit will assess NASA's compliance with requirements of the Federal Information Security Management Act (FISMA) for FY 2012. FISMA requires the OIG to conduct annual evaluations of NASA's information security program and report the results to OMB.

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. In this audit, we are evaluating NASA's efforts to adopt secure, cost-effective cloud-computing solutions.

NASA's Mobile Computing Devices

Our objectives for this audit are to determine whether the Agency has implemented appropriate security controls for its smartphones and tablet computers and assess whether it has taken appropriate actions to eliminate unneeded and duplicative mobile computing devices and services.

Financial Management

During this reporting period, the OIG conducted several reviews to assess NASA's efforts to improve its financial management practices and continued to work closely with the independent external auditor it hired to conduct the Agency's annual financial statement audit.

NASA's Efforts to Identify Improper Payments

The Improper Payments Information Act (IPIA) of 2002 and the Improper Payments Elimination and Recovery Act (IPERA) of 2010 require Federal agencies to identify and report on programs or activities susceptible to significant improper payments. Since FY 2006, NASA has consistently reported that it has identified no programs with significant improper payments.

In this audit, we examined whether NASA was identifying, reporting on, and reducing improper payments in accordance with IPIA. Specifically, we reviewed the IPIA section of NASA's Performance and Accountability Report (PAR) and supporting documentation to ensure NASA's methodology and determinations were sound, accurate, and complete.

We found that NASA had limited the scope of its IPIA efforts, which in turn minimized the Agency's ability to identify, report on, and recapture improper payments. Although the Agency had completed the steps required by IPIA and reported the results of its review in its FY 2011 PAR, it was not fully compliant with the requirements of the Act. Specifically, NASA's IPIA contractor improperly grouped disbursement data from the Agency's accounting system potentially masking improper payment rates, while other programs were excluded from the risk assessment altogether. Because NASA did not properly identify all programs and activities, the Agency did not meet IPIA requirements to conduct a program-specific risk assessment for each of the Agency's programs and activities.

We also reported concerns that the Agency's method for evaluating risk is inconsistent across various programs and activities and that NASA relies too heavily on the IPIA contractor to evaluate the level of risk in the Agency's programs. Further, we questioned NASA's decision to exclude payments to and by the Jet Propulsion Laboratory (JPL) from its IPIA review and to exclude grants from its transaction testing. We also identified several errors and omissions in the IPIA section of the PAR that led us to question whether NASA's reporting efforts were accurate and complete and whether its oversight and review of the contractor's work was adequate.

Finally, while NASA conducted recapture audits, the audits were limited to 26 percent of the Agency's total disbursements, and NASA did not target known high-risk programs or report on improper payments identified through other methods. As

a result, the Agency may be missing an opportunity to identify and recover a larger population of improper payments.

We made nine recommendations to improve NASA's improper payment identification, reporting, and recapture efforts. The Chief Financial Officer concurred or partially concurred with all but one of our recommendations and agreed to take corrective action. Although our report states that the recommendation to the Chief Financial Officer to include payments made by JPL to subcontractors in the Agency's improper payment program remains unresolved, she subsequently agreed to include those payments.

NASA's Efforts to Identify, Report, and Recapture Improper Payments (IG-12-015, May 1, 2012)
http://oig.nasa.gov/audits/reports/FY12/IG-12-015.pdf

Ongoing Audit Work

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. Our review will assess NASA's compliance with Federal and Agency requirements for several larger NASA-sponsored conferences over a 2-year period.

NASA's FY 2012 Financial Statements

The OIG is overseeing NASA's FY 2012 consolidated financial statement audit, which is being performed by the independent public accounting firm PricewaterhouseCoopers.

Other Matters

Investigation into Allegations that Members of a NASA-Supervised Advisory Committee Violated Federal Conflict of Interest Laws

During this reporting period, the OIG issued a report summarizing its investigation into allegations that members of a NASA-supervised advisory committee charged with advising Government officials about the Nation's global positioning system (GPS) violated Federal conflict of interest laws.

In January 2012, LightSquared Subsidiary LLC (LightSquared), a Virginia telecommunications company, asked the OIG to determine whether members of the National Space-Based Positioning, Navigation, and Timing Advisory Board (Advisory Board) who had ties to GPS manufacturers or related industries violated conflict of interest laws when they publicly opposed LightSquared's plan to develop a nationwide wireless broadband network.

The issues posed by LightSquared's plan came before the Advisory Board following a January 2011 decision by the Federal Communications Commission (FCC) to grant LightSquared conditional approval to augment its existing satellite telephone service with 40,000 ground-based cell towers. That plan sparked immediate concern from GPS users and manufacturers and members of the Advisory Board because the bandwidth assigned to LightSquared by the FCC abuts the spectrum reserved for use by GPS devices. The GPS community feared that radio signals from an expanded LightSquared network would interfere with and overwhelm the signals used by GPS devices.

At a June 2011 meeting, the Advisory Board voted to send a resolution opposing LightSquared's plans to its Executive Committee (EXCOM), a Government panel composed of the Deputy Administrator of NASA and senior officials from eight other Government agencies that monitors GPS-related issues. In addition, in August 2011 Vice Chairman Bradford Parkinson, a Stanford professor who helped design the original GPS for the military in the 1970s, co-signed a letter to the FCC requesting that the Agency deny LightSquared's request on the grounds that it would disrupt operation of the Nation's GPS.

The OIG investigation found that by co-signing the letter to the FCC Parkinson improperly participated in a particular matter that had a direct and predictable effect on his financial interests. Parkinson's conflict resulted from his status as a stockholder and board member of Trimble Navigation Limited (Trimble), a California manufacturer of precision-GPS devices that helped form a coalition of GPS makers and users to oppose LightSquared's plan.

However, we also determined that Parkinson's actions were not motivated by a financial interest but rather appeared to be driven by his desire to protect a critical national resource he had helped create. In particular, we noted that Parkinson had disclosed his ties to Trimble on his annual financial disclosure statements and made no attempt to hide his board membership or stock ownership. We also found that LightSquared representatives attended the June 2011 Advisory Board meeting and were aware of Parkinson's potential conflict at that time but failed to raise the issue.

To improve NASA's system for monitoring and advising advisory committees, we recommended that the Agency adopt additional procedures to help members of advisory committees identify potential conflicts of interest before they occur. For example, we found that although NASA attorneys reviewed the Advisory Board members' financial disclosure statements and issued warning letters to them about potential conflicts, the attorneys would have been in a better position to spot such conflicts if they also reviewed meeting agendas in advance and attended meetings whenever possible.

Report of Investigation into Allegations that Members of a NASA-Supervised Advisory Committee Violated Federal Conflict of Interest Laws (Special Report, August 2, 2012)
http://oig.nasa.gov/Special-Review/SpecialReport(8-2-12).pdf

Independent Assessment of NASA's Strategic Direction and Management

In NASA's FY 2012 appropriations (Public Law 112-55), Congress transferred $1 million to the OIG and directed us to "commission a comprehensive independent assessment of NASA's strategic direction and agency management." In January 2012, the OIG hired the National Research Council (NRC) – part of the National Academy of Sciences – to conduct this assessment, and the NRC subsequently appointed a committee composed of the following 12 experts:

Dr. Albert Carnesale (Chair)
Chancellor Emeritus and Professor, University of California

Dr. Ronald M. Sega (Vice Chair)
Vice President for Applied Research, Colorado State University Research Foundation and Woodward Professor of Systems Engineering, Colorado State University

Mark R. Abbott
Dean of the College of Earth, Ocean, and Atmospheric Sciences, Oregon State University

Jacques E. Blamont
Advisor to the president of Centre National d'Etudes Spatiales, the French national space agency

John C. Brock
Aerospace Consultant

Robert L. Crippen
Former Director, Kennedy Space Center, and retired president of Thiokol Propulsion Group, Brigham City, Utah

Joseph S. Hezir
Cofounder and managing partner of EOP Group, Inc., a consulting firm that specializes in Federal Government regulatory strategy development and budget policy

Dr. Ann R. Karagozian
Professor of Mechanical and Aerospace Engineering, University of California

Dr. Mark J. Lewis
Willis Young, Jr., Professor and Chair of the Department of Aerospace Engineering, University of Maryland

Marcia S. Smith
President of Space and Technology Policy Group, LLC

Michael S. Turner
Rauner Distinguished Service Professor and Director of the Kavli Institute for Cosmological Physics, University of Chicago

Warren M. Washington
Former head of the Climate Change Research Section and Director of the Climate and Global Dynamics Division, National Center for Atmospheric Research in Boulder, Colorado

During this reporting period, the NRC committee held public meetings in Washington, D.C. in May, June, and July and a fourth public meeting in August in Irvine, California. During these meetings, the committee received testimony from current and former NASA officials and outside experts, including NASA Administrator Charles Bolden,

Deputy Administrator Lori Garver, the Associate Administrators for NASA's Mission Directorates, Inspector General Martin, former NASA Administrators, congressional staff, and representatives from industry and other Government agencies.

According to the "Statement of Task" guiding the NRC's work, the committee will assess whether NASA's strategic direction remains viable and whether the Agency's activities and organization efficiently and effectively support that direction in light of the potential for constrained budgets for the foreseeable future. In keeping with specific direction in the appropriations law, any recommendations made by the committee should be predicated on the assumption that NASA's future budget profile will be constrained due to continuing deficit reduction efforts.

The NRC committee is expected to issue its report by November 15, 2012.

A detailed description of the assessment's scope can be found at http://oig.nasa.gov/IG Review proposal text_Final.pdf.

Additional information about the progress of the assessment is on the NRC's website at http://sites.nationalacademies.org/DEPS/ASEB/DEPS_067029.

Former Langley Exchange Employee Sentenced for Theft

On May 30, 2012, a former finance and accounting officer for Langley Research Center was sentenced in U.S. District Court for the Eastern District of Virginia to 9 months in prison and ordered to pay $199,173 in restitution. An investigation by the OIG revealed that from 2007 to 2011 the individual embezzled funds from the Langley Exchange checking account by writing checks to herself and manipulating the payroll to increase her annual salary.

Former NASA Employee Pleads Guilty to Copyright Infringement

In April 2012, a former electrical engineer at Goddard Space Flight Center pleaded guilty to criminal copyright infringement. A joint investigation by the NASA OIG and Department of Homeland Security found that the employee knowingly purchased over $1 million worth of stolen software on which the digital license files and access controls had been circumvented to permit unauthorized access.

Former NASA Official Sentenced for Submitting False Confidential Financial Disclosure Reports

In June 2012, a former senior official at Glenn Research Center pleaded guilty to making false statements in connection with her submission of inaccurate Confidential Financial Disclosure Reports from 2007 to 2010. An investigation by the OIG found that the official failed to include on her disclosure reports $1,400 in payments she

received for consulting work performed for a local community college and $25,845 she received while serving as pastor at a local church. In August 2012, the former employee received a sentence of 1 year of probation and a fine of $1,000.

Financial Advisor Sentenced for Theft of Government Benefits

On April 17, 2012, a financial advisor was sentenced to 18 months in prison followed by 3 years' supervised release and ordered to pay $89,313 in restitution to the Government. A joint investigation by the NASA and Social Security Administration OIGs revealed that the individual had been the financial advisor for a NASA employee who died in April 2006. The employee's U.S. Government benefits were electronically deposited in a joint account held by the employee and the financial advisor. Upon the death of the NASA employee, the financial advisor failed to notify the U.S. Government and continued to receive the benefit payments, which she then converted for her personal use.

Two Former NASA Contractor Employees Sentenced for Copper Theft

In May 2012, a contractor employee was sentenced in Texas State court to 2 years' probation and 200 hours of community service and ordered to pay $2,500 in restitution for stealing copper from Johnson Space Center. In June 2012, another contractor employee was sentenced in U.S. District Court for the Southern District of Texas to serve 2 years' probation and pay fines and restitution of $2,485 for stealing copper from Johnson. Both matters were investigated by the OIG in cooperation with NASA's Office of Protective Services.

Copper Thieves Charged

In July 2012, two Brevard County, Florida, men were indicted by a Federal grand jury in U.S. District Court for the Middle District of Florida for felony theft of copper from Cape Canaveral Air Force Station. One of the men admitted that he had been stealing copper from Kennedy Space Center and Cape Canaveral Air Force Station since 2010.

Ongoing Audit Work

NASA's Internal Controls for the Safe Accounting, Storage, and Use of Explosives, Pyrotechnics, and Propellants

To support NASA missions, NASA Centers and test facilities procure, store, transport, and handle explosive materials, pyrotechnics, and propellants. Such materials, referred to as "energetic materials," are extremely hazardous and include any chemical compound or mixture that when subjected to heat, impact, friction, or electrical initiation can result in detonation. This audit will examine NASA's internal controls for the procurement, transportation, storage, and handling of energetic materials.

LEGAL ISSUES

Ethics

In August 2012, the NASA OIG Legal staff provided ethics training to all employees required to file Federal financial disclosure forms. Non-filers were also encouraged to attend the training. The session covered general ethics principles, the Hatch Act, and the rules governing Federal conferences.

In-Service Training for Law Enforcement Officers

NASA OIG Legal staff gave presentations at three in-service training sessions for OIG law enforcement officers. The attorneys addressed use of force, rules governing the use of GPS devices and access to cell phone location records, constitutional law issues, and developments in criminal discovery and Federal labor law.

REGULATORY REVIEW

During this reporting period, the OIG reviewed and commented on 19 NASA directives and regulations. Significant directives and regulations reviewed included the following:

NASA Procedural Requirements (NPR) 8900.1A, "NASA Health and Medical Requirements for Human Space Exploration"

This NPR provides procedural requirements and processes to protect the health and safety of crewmembers involved in spaceflight activities and to enable successful human space exploration. The OIG made recommendations intended to more clearly define individual roles and responsibilities for certain functions carried out at the Center level.

Headquarters Procedural Requirement 8710, "NASA Headquarters Occupant Emergency Plan"

The NASA Headquarters Occupant Emergency Plan outlines the actions employees at NASA Headquarters should take in preparing for, responding to, and recovering from emergencies. The plan identifies members of the Emergency Management Team and defines their roles and responsibilities. The OIG recommended that the plan be revised to include requirements for an appropriate threat and vulnerability assessment and compliance with related NASA policy.

NPR 1620, "Facility Security Assessments" (Draft 2) and NPR 1620.3A, "Physical Security Requirements for NASA Facilities and Property"

NPR 1620 establishes requirements for determining security levels for the majority of NASA facilities. NPR 1620.3A establishes a baseline set of physical security measures to be applied for safeguarding and mitigating the risks to NASA assets. The OIG reviewed these two closely related documents and made a recommendation for improving the quality and currency of NASA facility risk assessments.

NPR 8735.2B, "Management of Government Quality Assurance Functions for NASA Contracts"

This NPR provides requirements for quality assurance functions to ensure that supplies and services acquired under Government contracts conform to the contracts' quality requirements. The OIG made recommendations to clarify and strengthen requirements for several periodic evaluations, audits, and reviews expected to be conducted as part of the quality assurance function.

NPR 8735.1C, "Procedures for Exchanging Parts, Materials, Software, and Safety Problem Data Utilizing the Government-Industry Data Exchange Program (GIDEP) and NASA Advisories"

This NPR establishes general requirements and procedures for NASA's participation in the Government-Industry Data Exchange Program (GIDEP) as required by the Office of Federal Procurement Policy Letter 91-3, "Reporting Nonconforming Products." The NPR provides the procedures to ensure that information concerning significant problems involving parts, materials, software, and safety is exchanged both internally and externally to NASA through preparation, distribution, and closeout of GIDEP Notices and NASA Advisories. The OIG made recommendations intended to clarify GIDEP roles and responsibilities at NASA, including the role of the OIG in investigating known or suspected counterfeit parts.

OUTREACH ACTIVITIES

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

- The Inspector General served as co-chair of the Council of the Inspectors General on Integrity and Efficiency (CIGIE) annual conference held in May 2012 in Alexandria, Virginia. More than 65 Federal Inspectors General (IGs) attended the 2-day conference to hear from Government leaders and discuss issues of common interest to the IG community.

- The NASA OIG Human Resources Director served on the CIGIE Leadership Development Subcommittee, which undertakes projects, studies, and reviews as directed by CIGIE's Professional Development Committee to enhance development of the knowledge, skills, and ability of members of the OIG community.

- The Office of Management and Planning's Information Technology Services (ITS) Directorate demonstrated the capabilities of NASA OIG's investigations case management system, NORS, to OIG representatives from the National Science Foundation, Department of Veterans Affairs, Special Inspector General for the Troubled Asset Relief Program, U.S. Capitol Police, Department of Education, National Labor Relations Board, and Defense Information Systems Agency. In addition to the NASA OIG systems, ITS currently supports the case management system and electronic audit workpapers of the Special Inspector General for Iraqi Reconstruction and the OIGs of the Department of State, the Federal Housing Finance Agency, and Amtrak.

- OA's Financial Management Directorate participated in monthly meetings of the Financial Statement Audit Network. Representatives from the Federal Accounting Standards Advisory Board, GAO, OMB, and other Federal OIGs met to discuss current issues in financial management, including the impacts of new accounting and auditing standards and revised reporting requirements affecting Federal agency and Government-wide financial statements.

- Members of the Financial Management and Mission Support Directorates are participating as members of the CIGIE Grant Reform Working Group. The Working Group was formed in response to the OMB's advance notice of proposed guidance, "Reform of Federal Policies Relating to Grants and Cooperative Agreements; cost principles and administrative requirements (including Single Audit Act)." The Working Group held a series of meetings and provided comments to OMB on the draft notice and on subsequently proposed guidance.

- OI personnel and members of OA's Science and Aeronautics Research Directorate participated in the Small Business Innovation Research (SBIR) Working Group, jointly sponsored by the NASA and National Science Foundation OIGs. Meetings in June and September focused on new congressional reporting requirements for OIGs at agencies with SBIR programs.

- Staff from OA's Mission Support Directorate participated in a review of CIGIE's Introductory Auditor Training Course with representatives from other OIGs. The purpose of the review was to identify improvements to the course's content, materials, and delivery.

NASA AIGI Kevin Winters (left) exchanges seals with Lev Kubiak, Director of the National Intellectual Property Rights Coordination Center.

- OI representatives attended an Agency Seal Exchange Ceremony in August 2012 at the National Intellectual Property Rights Coordination Center. The NASA OIG is a partner member of the Center, which seeks to identify, deter, and fight counterfeit and intel- lectual property crimes affecting Government programs.

- Members of OA's Mission Support Directorate assisted the Recovery Accountability and Transparency Board by coordinating collection of information to provide a review of NASA's Recovery Act funds. In keeping with its mission of transparency and accountability of Recovery Act funds, the Board publishes quarterly updates of the information at Recovery.gov.

- The Financial Management Director participated as a panelist at the Mid-Atlantic Intergovernmental Audit Forum in June 2012 in Ocean City, Maryland, where he discussed the OIG's monitoring and oversight of independent public accountants who perform single audits related to NASA.

- In June 2012, an OIG Associate Counsel taught the "Inspector General Authorities" course offered by the CIGIE Training Institute to a group of OIG attorneys, auditors, and evaluators from throughout the Federal IG community. This course focuses on the legal sources underlying the jurisdiction, authorities, and independence of the Federal IGs.

- The Assistant Inspector General for Audits addressed the International Space Development Conference in Washington, D.C., in May 2012 concerning the challenges associated with NASA's acquisition of spaceflight systems.

AWARDS

OI Supervisor Receives Federal Law Enforcement Award

On June 27, 2012, Kennedy Resident Agent-in-Charge (RAC) Patricia Searle was recognized for her exemplary investigative accomplishments by Women in Federal Law Enforcement (WIFLE) during the 12th Annual WIFLE Leadership Training Conference in Lake Buena Vista, Florida.

RAC Searle received the Outstanding Federal Law Enforcement Employee award for exemplifying the role of women in law enforcement through her professionalism, dedication, and superior leadership. Her efforts have resulted in significant successes in combating crimes against NASA that have threatened the procurement process and the safety of astronauts; led to the recovery of lunar material brought back to Earth during the Apollo Program; and supported the conviction of researchers conspiring to commit fraud in connection with more than $3 million in Government contracts.

Left to right: OIG Special Agent-in-Charge John Corbett, RAC Patty Searle, and AIGI Kevin Winters.

Appendixes

Appendix A. Inspector General Act Reporting Requirements

INSPECTOR GENERAL	REQUIREMENT DEFINITION	CROSS-REFERENCE PAGE NUMBER(S)
Section 4(a)(2)	Review of Legislation and Regulations	34–35
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	3–32
Section 5(a)(2)	Recommendations for Corrective Actions	3–32
Section 5(a)(3)	Prior Significant Audit Recommendations Yet to Be Implemented	45–47
Section 5(a)(4)	Matters Referred to Prosecutive Authorities	50
Section 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	43–44
Section 5(a)(7)	Summary of Significant Audits and Investigations	3–32
Section 5(a)(8)	Total Number of Reports and Total Dollar Value for Audits with Questioned Costs	48
Section 5(a)(9)	Total Number of Reports and Total Dollar Value for Audits with Recommendations that Funds Be Put to Better Use	48
Section 5(a)(10)	Summary of Prior Audit Products for which No Management Decision Has Been Made	48
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	52
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, 2012, the Office of Audits issued nine products.

REPORT NO./ DATE ISSUED	TITLE	IMPACT
Audit Area: Acquisition and Project Management		
IG-12-011 4/30/12	NASA's Use of Research Announcement Awards for Aeronautics Research	Identified $25.2 million in questioned costs and provided specific areas of focus for preventing NASA's ARMD NRA awards from containing approximately $3.6 million of unallowable and unsupported costs annually.
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	Identified an internal control deficiency that NASA should address to improve the Agency's ability to ensure sound grant oversight for the pre-award process.
IG-12-018 7/26/12	Audit of NASA Grants Awarded to the Philadelphia College Opportunity Resources for Education	Identified internal control deficiencies that both NASA and the grantee should address to improve the Agency's ability to provide sound grant oversight, and identified $216,920 in questioned costs.
IG-12-019 8/3/12	Audit of NASA Grant Awarded to HudsonAlpha Institute for Biotechnology	Identified internal control deficiencies that both NASA and the grantee should address to improve the Agency's ability to provide sound grant oversight and identified $44,567 in questioned costs.
IG-12-021 9/27/12	NASA's Challenges to Meeting Cost, Schedule, and Performance Goals	Provided specific areas of focus for addressing challenges in NASA's management of science and space programs that should enhance the Agency's ability to achieve cost, schedule, and performance goals.
Audit Area: Space Operations and Exploration		
IG-12-022 9/25/12	NASA's Plans to Modify the Ares I Mobile Launcher in Support of the Space Launch System	Identified issues and challenges that NASA must address to successfully identify additional technical risks of modifying the Mobile Launcher and accurately estimate future operating costs.

Table 1: Audit Products and Impact (continued)

REPORT NO./ DATE ISSUED	TITLE	IMPACT
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	Provided suggestions for NASA to maximize the full potential of its leasing program to help reduce the cost of maintaining underused facilities while meeting its obligation to reduce its real property footprint.
Audit Area: Information Technology Security and Governance		
IG-12-017 8/7/12	Review of NASA's Computer Security Incident Detection and Handling Capability	Provided specific areas of focus for addressing challenges NASA faces to ensure IT security of its computer network.
Audit Area: Financial Management		
IG-12-015 5/1/12	NASA's Efforts to Identify, Report, and Recapture Improper Payments	Provided specific areas of focus to ensure the Agency's compliance with the Improper Payments Information Act (IPIA) of 2002 and the Improper Payments Elimination and Recovery Act (IPERA) of 2010.

Table 2: Prior Audit Recommendations Yet to Be Implemented

As shown in Table 2, 178 of 234 recommendations, from 25 audit reports, remain open. Of these open recommendations, 140 are from 10 reports issued during the last semiannual reporting period. The oldest open recommendation, related to IT security, is from FY 2005.

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-12-013 3/1/12	Audit of NASA's Process for Transferring Technology to the Government and Private Sector	3/1/2012	3	3	2/1/2013
IG-12-012 3/6/12	Review of NASA's Lessons Learned Information System	3/6/2012	4	0	3/29/2013
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	6/30/2012[1]
Audit Area: Space Operations and Exploration					
IG-12-007 12/8/11	NASA's Management of Moon Rocks and Other Astromaterials Loaned for Research, Education, and Public Display	12/8/2011	5	3	9/30/2012[2]
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	1/31/2013
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	11/30/2012
Audit Area: Financial Management					
IG-12-010 2/16/12	Audit of NASA's Purchase and Travel Card Programs	8/31/2012	9	6	12/28/2012

[1] The OIG is working with management to determine the adequacy of corrective actions taken.
[2] The OIG is reviewing management's request for closure.

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	
NEW SINCE LAST REPORTING PERIOD (continued)					
Audit Area: Financial Management (continued)					
IG-12-004 11/15/11	Audit of the National Aeronautics and Space Administration's Fiscal Year 2011 Financial Statements	11/15/2011	8	0	11/30/2012
IG-12-003 11/23/11	Final Report, "FY 2011 NASA Financial Statement Audit Management Letter," Prepared by PricewaterhouseCoopers LLP in Connection with the Audit of NASA's FY 2011 Financial Statements	11/23/2011	65	0	11/30/2012
IG-12-001 10/12/11	Final Report, "FY11 Financial Statement Audit: Network Penetration Testing," Prepared by PricewaterhouseCoopers in Connection with the Audit of NASA's FY 2011 Financial Statements	10/12/2011	33	0	11/30/2012
REPORTED IN PREVIOUS SEMIANNUAL REPORTS					
Audit Area: Acquisition and Project Management					
IG-10-015 6/18/10	Review of NASA's Microgravity Flight Services	6/18/2010	1	2	12/31/2012
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	12/31/2012
Audit Area: Space Operations and Exploration					
IG-11-016 3/15/11	Preparing for the Space Shuttle Program's Retirement: Review of NASA's Controls over Public Sales of Space Shuttle Property	3/15/2011	4	3	2/28/2013
IG-10-016 7/6/10	NASA's Astronaut Corps: Status of Corrective Actions Related to Health Care Activities	7/6/2010	1	1	12/31/2012
Audit Area: Infrastructure and Facilities Management					
IG-11-024 8/4/11	NASA Infrastructure and Facilities: Assessment of Data Used to Manage Real Property Assets	8/4/2011	1	2	12/20/2012

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: Information Technology Security and Governance					
IG-11-017 3/28/11	Inadequate Security Practices Expose Key NASA Network to Cyber Attack	3/28/2011	3	0	12/31/2012
IG-10-024 9/16/10	Review of NASA's Management and Oversight of Its Information Technology Security Program	9/16/2010	2	1	12/31/2012
IG-10-019 9/14/10	Audit of NASA's Efforts to Continuously Monitor Critical Information Technology Security Controls	9/14/2010	2	0	12/28/2012
IG-10-018-R 8/5/10	Audit of Cybersecurity Oversight of [a NASA] System (Redacted)	9/14/2010	1	14	9/30/2012[3]
IG-10-013 5/13/10	Review of the Information Technology Security of [a NASA Computer Network]	5/13/2010	2	0	12/28/2012
IG-10-013-a 7/1/10	Addendum				
IG-05-016 5/12/05	NASA's Information Technology Vulnerability Assessment Program	5/12/2005	1	3	2/29/2012[2]
Audit Area: Other					
IG-11-026 9/12/11	NASA's Grant Administration and Management	3/8/2012	6	3	8/1/2013
IG-11-023 8/10/11	NASA's Payments for Academic Training and Degrees	10/27/2011	6	0	2/28/2013
IG-11-004 12/13/10	Review of the Jet Propulsion Laboratory's Occupational Safety Program	1/18/2011	6	9	1/31/2013
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

[2] The OIG is reviewing management's request for closure.
[3] 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	1	$2,186,330
Issued during period	3	$25,498,785
Needing management decision during period	4	$27,685,115
Management decision made during period		
Amounts agreed to by management	1	$27,324,622
Amounts not agreed to by management	1	$99,006
No management decision at end of period		
Less than 6 months old	2	$261,487
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	2	$61,750,000
Issued during period	1	$3,577,794
Needing management decision during period	3	$65,327,794
Management decision made during period		
Amounts agreed to by management	1	$4,313,759
Amounts not agreed to by management	2	$61,014,035
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	40
Audits with findings	21

Findings and Questioned Costs		
	NUMBER OF FINDINGS	QUESTIONED COSTS
Management decisions pending, beginning of reporting period	258	$18,380,725
Findings added during the reporting period	52	302,378
Management decision made during reporting period		
Agreed to by management	(11)	(231,426)
Not agreed to by management	–	–
Management decisions pending, end of reporting period	299	18,451,677

* 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	21
Appeals	2
Inspector General subpoenas issued	72
Regulations reviewed	19

Table 7: Office of Investigations Activities

a. Complaint Intake Disposition

SOURCE OF COMPLAINT	ZERO FILES[1]	ADMINISTRATIVE INVESTIGATIONS[2]	MANAGEMENT REFERRALS[3]	PRELIMINARY INVESTIGATIONS[4]	TOTAL
Hotline	45	13	2	17	77
All others	58	12	4	80	154
Total	**103**	**25**	**6**	**97**	**231**

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

b. Full Investigations Opened this Reporting Period

Full criminal/civil investigations*	21

* 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	102
Full criminal/civil investigations	85
Administrative investigations	43
Total	**230**

d. Qui Tam[1] Investigations[2]

Opened this reporting period	4
Pending at end of reporting period	11

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

Table 7: Office of Investigations Activities (continued)

e. Judicial Actions

Cases referred	50
Indictments/criminal informations	16
Convictions/plea bargains	9
Sentencing	11
Civil settlements/judgments	2

f. Administrative Actions

Recommendations to NASA management for disciplinary action		**17**
Involving a NASA employee	4	
Involving a contractor firm	4	
Involving a contractor employee	7	
Other	2	
Administrative/disciplinary actions taken		**11**
Against a NASA employee	3	
Against a contractor firm	1	
Against a contractor employee	7	
Recommendations to NASA management on program improvements		**5**
Matters of procedure	4	
Safety issues or concerns	1	
Program improvement actions taken		**6**
Matters of procedure	6	
Referrals to NASA management for review and response		**7**
Referrals to NASA management – information only		**8**
Referrals to the Office of Audits		**7**
Referrals to Security or other agencies		**6**
Suspensions or debarments from Government contracting		**3**
Involving an individual	2	
Involving a contractor firm	1	

g. Investigative Receivables and Recoveries

Judicial	$8,708,410	
Administrative*	$8,189,929	
Total	**$16,898,339**	
Total to NASA		**$9,005,392**

* 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 145 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	$ 86,804,000	$20,043,000
Funds to be put to better use	$125,453,000	$29,129,000

[1] 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.

[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 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.

Review of Office of Audits' Quality Control by Commerce

During the reporting period, the Department of Commerce OIG completed its peer review of our audit organization's quality control system in place for the period of April 1, 2010, through March 31, 2011. The review focused on whether our system of quality control was suitably designed and whether we were complying with the quality control system, in order to provide us with reasonable assurance of conforming with applicable professional standards. The Department of Commerce OIG review concluded that the system of quality control for our audit organization in effect for the 1-year period ended March 31, 2011, was suitably designed and complied with to provide us with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. Federal audit organizations can receive a rating of pass, pass with deficiencies, or fail. The Department of Commerce OIG assigned our audit organization a peer review rating of "pass" for the period reviewed, the highest rating available. We have implemented all of the Department of Commerce OIG's recommendations for process and policy improvements, and there are no outstanding recommendations from this or any previous peer reviews of NASA OIG organizations. We provided copies of the peer review report to the appropriate entities.

Department of Commerce Office of Inspector General's External Quality Control Review of the NASA Office of Inspector General's Office of Audits (September 26, 2012)
http://oig.nasa.gov/audits/reports/FY12/System-Review.pdf

Peer Review of Small Business Administration OIG

Also during this semiannual reporting period, we performed a peer review of the Small Business Administration OIG audit organization's quality control system in place for the period of April 1, 2010, through March 31, 2011. We assigned a peer review rating of "pass" for the period reviewed. The Small Business Administration's OIG has informed us that it implemented the recommendation we made as the result of our review. We have no outstanding recommendations related to this or past peer reviews that we have conducted.

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 OIG to investigative and prosecutive agencies at the Federal, state, or local level or to agencies for management or administrative action. An individual case may be referred for disposition to one or more of these categories.

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

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

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

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

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

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

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

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

Acronyms

AIGI	Assistant Inspector General for Investigations
APT	Advanced Persistent Threat
ARMD	Aeronautics Research Mission Directorate
AS&M	Analytical Services and Materials, Inc.
CIGIE	Council of the Inspectors General on Integrity and Efficiency
CIO	Chief Information Officer
CORE	College Opportunity Resources for Education
DCAA	Defense Contract Audit Agency
DIG	Deputy Inspector General
DOJ	Department of Justice
EXCOM	Executive Committee
FCC	Federal Communications Commission
FISMA	Federal Information Security Management Act
FOIA	Freedom of Information Act
FY	Fiscal Year
GAO	Government Accountability Office
GIDEP	Government-Industry Data Exchange Program
GPS	Global Positioning System
IG	Inspector General
IPERA	Improper Payments Elimination and Recovery Act
IPIA	Improper Payments Information Act
ISS	International Space Station

IT	Information Technology
ITS	Information Technology Services
JPL	Jet Propulsion Laboratory
MAVEN	Mars Atmosphere and Volatile Evolution
NASA	National Aeronautics and Space Administration
NPR	NASA Procedural Requirements
NRA	NASA Research Announcement
NRC	National Research Council
NSSC	NASA Shared Services Center
OA	Office of Audits
OCO-2	Orbiting Carbon Observatory-2
OI	Office of Investigations
OIG	Office of Inspector General
OMB	Office of Management and Budget
OMP	Office of Management and Planning
ORCA	Online Representations and Certifications Application
PAR	Performance and Accountability Report
RAC	Resident Agent-in-Charge
SBIR	Small Business Innovation Research
SLS	Space Launch System
SOC	Security Operations Center
WIFLE	Women in Federal Law Enforcement

Appendix E. NASA OIG Offices of Audits and Investigations

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Tel: 650-604-3682 Investigations

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Cleveland, OH 44135-3191
Tel: 216-433-9714 Audits
Tel: 216-433-2364 Investigations

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

NASA Office of Inspector General
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402 East State Street
Room 3036
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Jet Propulsion Laboratory
NASA Office of Inspector General
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