

National Aeronautics and Space Administration

OFFICE OF INSPECTOR GENERAL
WASHINGTON, DC 20546-0001



August 13, 2009

TO: Director, Innovative Partnerships Program
Director, Office of Program and Institutional Integration

FROM: Acting Assistant Inspector General for Auditing

SUBJECT: NASA's Small Business Innovation Research (SBIR) Program
(Report No. IG-09-023; Assignment No. A-09-015-01)

On August 6, 2009, the Acting Inspector General was a witness at a hearing held by the U.S. Senate Committee on Commerce, Science, and Transportation on waste, fraud, and abuse in the SBIR Program. The Acting IG discussed the Office of Inspector General's audit and investigative work related to NASA's SBIR Program. (See the Enclosure for the statement for the record.)

The Acting IG noted that our work has identified instances of fraud, waste, and abuse by Program participants that bring into question the effectiveness of the Program's internal controls. Specifically, of the 46 SBIR investigations we closed since 2001, eight or 17 percent have resulted in criminal convictions, civil judgments, or administrative corrective action. Currently, we have five open investigations involving allegations of potential fraud, waste, or abuse in the SBIR Program.

Our investigative and audit work has shown that some SBIR contractors

- received awards from multiple agencies for essentially the same work,
- submitted different proposals to multiple agencies but then provided all of them the same deliverable, or
- misrepresented information including the role of a principal investigator who was supposed to perform the research.

We identified many of these violations as early as 1992, and while NASA has taken corrective action to improve internal controls in the SBIR Program, we continue to identify the same violations in recent and ongoing investigations.

Questions posed by Committee members during the August 6, 2009, hearing indicate a continuing high degree of congressional interest in all Federal agencies' SBIR programs; specifically, how agencies are addressing fraud committed by program participants. In responding to such questions, the Acting IG told the Committee Chairman that the OIG was initiating a comprehensive audit of NASA's management of the SBIR Program that

will focus specifically on assessing the adequacy and implementation of the Program's internal controls and the extent of fraud, waste, and abuse by Program participants.

The Acting IG also told the Committee Chairman that we would recommend that NASA consider whether the SBIR program represents a weakness in internal controls that warrant monitoring as part of the Agency's implementation of OMB Circular A-123. Accordingly, we are recommending that the Director, Innovative Partnerships Program, take into consideration the OIG's past audit and investigative work concerning the SBIR Program when conducting the Statement of Assurance Process for 2009. We also recommend that the Senior Assessment Team (SAT) discuss NASA's SBIR Program and consider whether the Program's internal controls represent a vulnerability that should be monitored.

We request a response to this memorandum from the Director, Innovative Partnerships Program, and from the Director, Office of Program and Institutional Integration. We request that management provide a single, coordinated Agency response by September 14, 2009. Management comments should indicate concurrence or nonconcurrence with each applicable recommendation. Comments should describe actions taken or planned in response to agreed-upon recommendations and provide the completion dates of the actions. State specific reasons for any nonconcurrence and propose alternative actions, if appropriate.

We are available should you have questions. The OIG point of contact (POC) for this issue is Mr. Ray Tolomeo, Science and Aeronautics Research Director, Office of Audits, at 202-358-7227 or Raymond.Tolomeo@nasa.gov.

signed by Mark Jenson for
Debra D. Pettitt

Enclosure

cc:
Assistant Administrator for Internal Controls and Management Systems

Testimony



National Aeronautics and Space Administration
Office of Inspector General

August 6, 2009

**Hearing of the Senate Committee on Commerce, Science,
and Transportation on the National Aeronautics and Space
Administration's Small Business Innovation Research
(SBIR) Program**

Statement by:

Thomas J. Howard
Acting Inspector General

111th Congress

Chairman Rockefeller and Members of the Committee:

Thank you for the opportunity to discuss the Office of Inspector General's work addressing fraud, waste, and abuse in the Small Business Innovation Research (SBIR) Program of the National Aeronautics and Space Administration (NASA).

Over the last 5 years, with an average of more than \$105 million in annual awards, NASA's SBIR Program is one of the largest in the Federal Government, providing substantial support for small business participation in research and development activities. A recent assessment by the National Research Council of the National Academies concluded, "The NASA SBIR Program is making significant progress in achieving the congressional goals for the Program."

While SBIR plays an important role in NASA's research activities, our work has identified instances of fraud, waste, and abuse by Program participants that bring into question the effectiveness of the Program's internal controls. Specifically, of the SBIR 46 investigations we have closed since 2001, eight or 17 percent have resulted in criminal convictions, civil judgments, or administrative corrective action. Currently, we have five open investigations involving allegations of potential fraud, waste, or abuse in the SBIR Program.

Our investigative and audit work has shown that some SBIR contractors

- submitted duplicate proposals to different Federal agencies and received multiple awards for essentially the same work,
- submitted different proposals to multiple Federal agencies but provided duplicate deliverables based on the same research,
- failed to comply with subcontracting limitations, and
- identified principal investigators who were not primarily employed by the small business concern or who failed to perform a substantial portion of the research work contracted by NASA.

We identified many of these violations as early as 1992, and while NASA has taken corrective action to improve internal controls in the SBIR Program, we continue to identify the same violations in recent and ongoing investigations. Accordingly, we are initiating a comprehensive audit of NASA's management of the SBIR Program. We will focus specifically on assessing the adequacy and implementation of the Program's internal controls and the extent of fraud, waste, and abuse by Program participants.

We anticipate that our work will identify opportunities to improve SBIR policies and enhance the Program's internal control structure. We will also continue to work with the Department of Justice to hold accountable those SBIR Program participants who attempt to harm NASA through fraud, waste, and abuse.

Background of SBIR Program

In 1982, Congress established the SBIR Program to provide increased opportunities for small businesses to participate in research and development (R&D), to increase employment, and to

improve U.S. competitiveness. The Program's specific objectives were to (1) stimulate U.S. technological innovation, (2) use small businesses to meet Federal R&D needs, (3) increase private-sector commercialization of innovations derived from Federal R&D, and (4) foster participation by socially disadvantaged businesses.

NASA's SBIR Program receives overall policy direction from the Office of Innovative Partnerships Program. The SBIR Program Management Office at the Ames Research Center manages the Program using staff from NASA Mission Directorates and Centers. All NASA Centers actively participate in the SBIR Program to support the objective of infusing SBIR technology into Center programs and projects.

NASA allocates 2.5 percent of its annual extramural R&D budget for SBIR awards. NASA's annual solicitation for proposals includes R&D topics that NASA's Mission Directorates have identified as high priority needs for their programs and projects. For 2008, NASA received 1,662 proposals and selected 493 proposals for SBIR contracts.

NASA Office of Inspector General (OIG) Oversight of the SBIR Program

NASA OIG has been actively involved in investigative and audit work relating to NASA's SBIR Program, which resulted in criminal penalties, civil recoveries, and detailed program recommendations to improve NASA's internal controls over the Program. We currently have five open investigations involving allegations of potential fraud, waste, or abuse in the SBIR Program and are also initiating a comprehensive audit of the Program.

Since 2001, we have closed 46 investigations relating to the SBIR Program. Of those closed cases, 38 involved matters where the allegations were unsubstantiated or the facts we developed were declined for prosecution. The other eight closed investigations—17 percent—identified problems that resulted in criminal convictions, civil judgments, or administrative corrective action. The following closed cases generally illustrate the types of activity we found:

- NASA SBIR contractors improperly submitted the same or related proposals to multiple Federal agencies, resulting in multiple payments for that same proposal. In one case, the 5th Circuit Court of Appeals recently affirmed a U.S. District Court decision, under the False Claims Act, ordering Lithium Power Technologies, Inc., to pay approximately \$5 million in damages for making numerous false SBIR representations, including non-disclosure of related proposals to another agency, in the proposal phase of four Federal SBIR contracts. Lithium Power Technologies, Inc., has also been debarred from Government contracts until March 2018. In a separate case, Lasergenics, Inc., agreed to pay \$25,000 in a Federal civil settlement in response to allegations of submitting identical SBIR proposals to NASA and the National Science Foundation.
- NASA SBIR contractors provided duplicate deliverables to multiple agencies, resulting in the contractors receiving multiple payments for the same work product. For example, a NASA OIG investigation revealed that ML Energia, Inc., used the SBIR Program to defraud a number of Federal agencies by submitting false certifications in SBIR proposals, to include representations that the company would not duplicate its research.

The investigation also confirmed that ML Energia submitted research that was “recycled” or performed under previous contracts. A U.S. District Court convicted the president of ML Energia of mail fraud and tax evasion, sentencing him to 12-months home confinement and 5 years probation. He was also ordered to pay a civil payment of \$1.4 million and a \$20,000 fine. In a separate case, we investigated allegations that Luna Innovations, Inc., submitted duplicate reports and proposals to various Federal agencies, including NASA. After negotiations with the Department of Justice, Luna agreed to a civil settlement in which it agreed to pay \$165,333 to resolve claims regarding SBIR without admission of liability.

- One NASA SBIR contractor misrepresented the role of its principal investigator. Under the SBIR Program, the principal investigator is the person designated by the applicant to provide the scientific and technical direction to a project supported by the funding agreement. Our investigation of Glimmerglass Science and Technology found multiple SBIR Program violations because its principal investigator was not primarily employed by the contractor and he also failed to perform a substantial portion of the research work.
- NASA SBIR contractors mischarged their SBIR contracts. For example, a NASA OIG investigation of Nanomaterials Research Corporation found that the company willfully diverted, concealed, and illegally used various SBIR funds from multiple Federal agencies. The corporation pled guilty in U.S. District Court to making false statements about their SBIR contract. The Court sentenced the corporation to pay a fine of \$10,000, probation for 36 months, and pay restitution of \$540,000. In a separate cost-mischarging case, ISX Corporation was alleged to have applied cost overruns on SBIR fixed-priced contracts to a NASA cost-plus contract. The ISX Corporation agreed to pay \$100,000 as an administrative settlement of its unallowable costs. Finally, a NASA OIG investigation found that Amav Systems, Inc., did not provide accurate labor rates in its proposed labor costs for a SBIR contract award. Ultimately, Amav agreed to pay \$93,970 to settle the matter, without admission of liability.

The five open investigations involve similar issues:

- In one investigation, a NASA SBIR contractor is alleged to have submitted duplicate SBIR proposals and deliverables to multiple agencies. Further, the contractor allegedly submitted false certifications that the company possessed the required research capability, performed the research effort, and achieved the results delivered to the Government.
- In three other investigations, NASA contractors allegedly violated their SBIR requirements by submitting false certifications as to their SBIR eligibility. In one case, a contractor may have falsely certified that it was an American-owned company when it was not. In another case, a contractor may have falsely certified that it was performing in-house research when it did not have that capability. In the third case, a contractor may have falsely certified that it met the SBIR requirements for a small business classification when it did not.

- In February 2009, NASA OIG and the Federal Bureau of Investigation executed Federal seizure warrants at a major university as well as at the home and offices of a NASA SBIR contractor, New Era Technology (NETECH). These warrants were based on probable cause that a university professor, who also was a principal NETECH officer, along with his family members, submitted multiple fraudulent SBIR proposals to NASA in order to receive the maximum SBIR funding for proposed research contracts. Further, the evidence indicates that NETECH may have submitted false invoices to NASA in order to conceal the improper use of SBIR funds, which allegedly included improper diversion of SBIR funds into the personal bank accounts of the professor and his family members. Documents in the public record indicate that those involved may have violated a variety of Federal statutes, to include theft of public money, mail or wire fraud, and money laundering.

These investigations illustrate only part of our longstanding work in this area. Our Office of Audits has also focused attention on the Program, which resulted in specific recommendations to improve NASA's oversight of the SBIR Program.

In a very early audit of the SBIR Program (HQ-91-009, September 8, 1992), we identified several weaknesses within the SBIR Program's policies and procedures. Specifically, we found that there was insufficient monitoring and tracking of SBIR awards; we also found that NASA and other agencies were providing duplicate funding for the same R&D efforts. Additionally, we found that principal investigators were not primarily employed by the small business concern, in violation of Program requirements, and that SBIR projects did not always meet SBA-established timeframes.

In April 2004, our Offices of Audits and Investigations issued a "Management Alert - Concerns Relating to NASA SBIR Contracts." The report informed NASA senior management of SBIR-related problems with multiple awards for the same work, duplicate deliverables under multiple contracts, and violations of SBIR Program limits on contract effort by subcontractors and principal investigators. The report attributed the problems to weak contractor certification requirements and ineffective contract oversight.

In response to the Conference Report (House Report 108-792) that accompanied the fiscal year (FY) 2005 Consolidated Appropriations Act, 2005, Public Law 108-44, we reported that our audit and investigative work uncovered a number of trouble areas in NASA's acquisition and contracting processes. As detailed in our December 5, 2005, report, these areas of weakness included

- lack of a reliable financial management system to track contract spending,
- inadequate control over Government property held by contractors,
- single-bidder contracts with undefined and changing contract requirements,
- lack of transparency to subcontractors working on NASA programs,
- procurement process abuses by NASA employees and contractors, and
- significant cost overruns in some Agency programs.

In addition to identifying the above weaknesses, we reiterated that the vulnerabilities within the SBIR Program identified in our April 2004 report were unresolved leaving the Agency vulnerable to fraud, waste, and abuse. Both reports recommended that

- prior to making final payment to SBIR contractors, NASA should require contractors to complete and submit a recertification of compliance with Program requirements, and
- NASA's Office of Procurement should issue periodic notices to the SBIR procurement and technical community to emphasize the importance of effective administration and technical oversight of the Agency's SBIR contracts.

NASA concurred with our recommendations and revised the NASA Federal Acquisition Regulation Supplement in October 2006 to require that, prior to receiving final payment, SBIR contractors must recertify that work performed had not been proposed for funding to another Federal agency; no other Federal funding has been received for equivalent work; deliverables submitted have not been submitted as deliverables under another Federal award; subcontracting limitations had not been exceeded; and the primary employment of the principal investigator was with the contractor. The Agency also agreed to issue periodic notices to the NASA SBIR procurement and technical community to emphasize the importance of effective administration and technical oversight of the Agency's SBIR contracts.

SBIR Program Issues Identified by Other Agencies

Past reports and testimony by the Government Accountability Office (GAO) and Department of Energy indicate similar issues with other agencies' SBIR Programs. GAO reported in "Federal Research: Interim Report on the Small Business Innovation Research Program" (GAO/RCED-95-59, March 8, 1995) that contractors received duplicate funding for similar SBIR research proposals. GAO attributed duplicate funding to false contractor certifications, lack of a consistent definition for "similar" research, and lack of interagency sharing of data on SBIR awards. GAO recommended that the Small Business Administration take corrective action to improve interagency coordination and to reduce the risk of funding duplicate research. GAO also provided congressional testimony on June 28, 2005,¹ "Federal Research: Observations on the SBIR Program" (GAO-05-861T), highlighting the challenge of assessing the performance of the SBIR Program.

Energy's OIG reported in "Management Controls over Monitoring and Closeout of SBIR Phase II Grants" (OAS-M-08-09, July 2008) that agency officials gave insufficient attention to SBIR costs during post-award reviews. The report identified nearly \$800,000 in questionable or unsupported costs charged to SBIR awards that officials had not verified. Energy's OIG attributed the problems to infrequent post-award desk reviews or audits of SBIR costs. The report recommended that agency officials randomly select SBIR Phase II awards for post-award audit.

¹ GAO provided testimony to the Subcommittee on Environment, Technology, and Standards, Committee on Science, House of Representatives.

Internal Controls and NASA OIG's Current Audit of NASA's SBIR Program

Over the last decade, we have been involved in a number of activities to assess the overall internal control systems NASA has in place to ensure effective oversight of its contractors. We believe there is much to be gained through these activities, in terms of developing safeguards and improving policies. In particular, we have been involved in initiatives to implement Office of Management and Budget Circular A-123, "Management's Responsibility for Internal Control," and to address fraud against NASA.

For example, NASA established the Acquisition Integrity Program (AIP) in December 2006. The Program is a collaborative effort among NASA's Offices of General Counsel, Chief Financial Officer, Procurement, and the OIG. AIP provides a centralized and coordinated approach to address fraud and corruption throughout the acquisition process and to ensure the Agency integrity and public trust. The vision of AIP is to promote transparency, accountability, and integrity throughout the NASA acquisition process. The Program serves as a mechanism to identify irresponsible contractors for suspension, debarment, or pursuit of remediation. The Program also minimizes vulnerabilities through increased understanding of fraud, waste, and abuse in the contracting environment by implementing a comprehensive "fraud awareness" training program at all NASA Centers and at NASA Headquarters. The most recent training phase (Spring 2009), which included OIG personnel as presenters, targeted NASA's contracting officers and contracting officer's technical representatives.

While NASA is working to improve its internal control environment and fraud awareness, the OIG remains vigilant in our mandate to identify and prevent fraud, waste, and abuse. Notably, the issues we identified in our work as early as 1992, and more recently in 2004 to 2005, are essentially the same violations underpinning the five investigations we are conducting in 2009. Strong controls are essential to reducing the risk of improper activity within NASA's SBIR Program; therefore, we are initiating a comprehensive review of NASA's internal controls for the SBIR Program.

Specifically, we will determine whether management developed and implemented effective internal controls to evaluate and select proposals, award contracts, and perform post-award administration. Additionally, we will assess the extent of fraud, waste, and abuse in the Program. Our methodology will be to

1. gain a thorough understanding of the SBIR Program's organization, operation, and relevant system of internal control;
2. based on that understanding, and any needed additional review and analysis, make a preliminary assessment of the adequacy of the design of the system of internal control;
3. test the effectiveness of internal control using statistical sampling; and
4. use data mining to detect instances of potentially fraudulent, improper, or abusive transactions to illustrate the effects of breakdowns in internal control.

We anticipate that our work will identify opportunities to improve SBIR policies and enhance the Program's internal control structure. We will also continue to work with the Department of

Justice to hold accountable those SBIR Program participants who attempt to harm NASA through fraud, waste, and abuse.

Thank you for the opportunity to participate in this important dialogue. I would be happy to answer any questions you may have.

Biography

Thomas J. Howard, Acting Inspector General

Tom Howard has been serving as the Acting Inspector General for the National Aeronautics and Space Administration since April 2009. Tom has 35 years of experience in the Federal accountability community including 7 years as NASA's Deputy Inspector General. From 1998 to 2002, Tom served as Deputy Assistant Inspector General for Maritime and Surface Safety Issues at the Department of Transportation. His duties included audit oversight of all Coast Guard and Maritime Administration activities, motor carrier and vehicle safety programs, and multibillion-dollar highway and transit infrastructure projects.

Prior to joining the IG community, Tom had a 24-year career with the General Accounting Office, where he was an Assistant Director for National Security and International Affairs Audits. Tom spent 16 years in GAO's Washington, D.C., headquarters and 8 years in GAO's overseas offices in Frankfurt, Germany, and Honolulu, Hawaii. Throughout his career, he was involved in the oversight of numerous Federal programs and a variety of issues including defense management, procurement, information technology, and international affairs.

Tom holds a B.S. in Accounting from the University of Scranton in Pennsylvania. He has completed the National Security Management Seminar of the National Defense University and the Federal Executive Institute's Leadership for a Democratic Society Program. His awards include the GAO's Meritorious Service Award, and the National Security and International Affairs Division's Frank C. Conahan Leadership Award. Tom has been a career member of the Senior Executive Service since April 1998.