

National
Science
Foundation



Office of
Inspector
General



Semiannual Report to Congress

March 2009

About The National Science Foundation...

The National Science Foundation (NSF) is charged with supporting and strengthening all research disciplines, and providing leadership across the broad and expanding frontiers of science and engineering knowledge. It is governed by the National Science Board which sets agency policies and provides oversight of its activities.

NSF invests over \$5 billion per year in a portfolio of approximately 35,000 research and education projects in science and engineering, and is responsible for the establishment of an information base for science and engineering appropriate for development of national and international policy. Over time other responsibilities have been added including fostering and supporting the development and use of computers and other scientific methods and technologies; providing Antarctic research, facilities and logistic support; and addressing issues of equal opportunity in science and engineering.

And The Office of the Inspector General...

NSF's Office of the Inspector General promotes economy, efficiency, and effectiveness in administering the Foundation's programs; detects and prevents fraud, waste, and abuse within the NSF or by individuals that receive NSF funding; and identifies and helps to resolve cases of misconduct in science. The OIG was established in 1989, in compliance with the Inspector General Act of 1978, as amended. Because the Inspector General reports directly to the National Science Board and Congress, the Office is organizationally independent from the agency.

About the Cover...

Original photo by Dr. Ken Busch, Investigative Scientist.

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From the Inspector General

This Semiannual Report to Congress highlights the activities of the National Science Foundation (NSF) Office of Inspector General (OIG) for the six months ending March 31, 2009. During this period our office issued 13 reports containing questioned costs of \$636,718. In addition our investigative staff closed 29 civil/criminal investigations, 33 administrative investigations and recovered \$1,294,136 for the government while referring seven cases to the Department of Justice.

This Report is my first since being appointed Inspector General of the National Science Foundation in late April. I want to thank the National Science Board for giving me this rare opportunity to serve. Thanks are also due to Deputy Inspector General Tim Cross under whose leadership much of the work reported in this period was conducted. Tim not only performed the duties of IG and Deputy IG during this period of transition, but more than rose to the challenge when the Recovery Act thrust many new responsibilities on our office.

These are difficult times for those of us in the Inspector General community. As more federal funds are spent to bolster the economy, higher standards of accountability and transparency are required to maintain the public's confidence in the institutions of government. OIGs are being asked to be more proactive and to develop new ideas for preventing fraud waste and abuse (FWA) before it occurs. Increasingly, Congress and the public expect OIGs to report on where the risks reside as opposed to uncovering problems after they have occurred.

While these are formidable challenges, I believe that the National Science Foundation's OIG is well-positioned to meet them. Our OIG has historically invested more of its resources in *preventative* activities than most. Our staff regularly reaches out to the research community and NSF staff to make them aware of their role in combating fraud and waste, and to alert them to what we are finding in our audits and investigations. Since it is difficult if not impossible to measure the value of FWA that is prevented, these efforts do not show up in statistical tables or performance metrics, but pay large dividends nonetheless in terms of raising awareness of accountability and compliance issues. I consider this outreach a wise investment and plan to continue it.

The Semiannual Report carries information about our initial efforts in response to the Recovery Act on p. 7, and general outreach efforts on p. 9. Other articles of interest include: the FY 2008 audit of NSF's financial statements on p. 14; audits of four grantees that failed to adequately monitor their subrecipients on p. 15; our role in a multi-agency investigation that resulted in a \$7.6 million settlement on p. 29; and five cases in which employees of awardee institutions violated positions of trust on p. 30.

A handwritten signature in black ink that reads "Allison C. Lerner".

Allison C. Lerner
Inspector General

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Report Highlights

- Allison C. Lerner assumed the duties of Inspector General (IG) of the National Science Foundation (NSF) in April 2009. Ms. Lerner previously served as Counsel to the Inspector General at the Department of Commerce, where she began her federal career in 1991. **(Page 7)**
- The NSF OIG initiated oversight of \$3 billion in stimulus funds appropriated to the agency as part of the American Recovery and Reinvestment Act (ARRA). OIG is taking a two-stage approach to its ARRA responsibilities: 1) a *proactive* phase for risk mitigation activities that can be accomplished in the near term to help the agency and OIG prevent problems and prepare for more substantive work and; 2) an *operational* phase during which audits, investigations, and other types of reviews are conducted. **(Page 7)**
- An audit of NSF's FY 2008 financial statements conducted by an independent CPA firm under a contract with OIG resulted in the agency again receiving an unqualified opinion. However, the FY 2008 Management Letter identified seven findings, some of which included elements of prior years' findings related to NSF's operations and financial reporting controls. **(Page 14)**
- Four audits of non-profit organizations with more than \$14 million of subawards, found a consistent pattern of inadequate subrecipient oversight. Awardees that pass through federal funds to subrecipients are required to monitor them by methods such as reviewing financial and performance reports, performing site visits, or otherwise ensuring they have adequate financial systems to manage federal funds. **(Page 15)**
- NSF sustained \$3.3 million of \$4.2 million in costs questioned by auditors during a 2008 audit of two NSF awards to the School District of Philadelphia. In their report, auditors issued a disclaimer of opinion as they could not determine whether approximately \$13 million of direct and associated indirect costs and \$3.2 million of claimed cost sharing were allowable, allocable, and reasonable. **(Page 24)**
- OIG participated in a multi-agency investigation of allegations against a Connecticut university, resulting in a civil settlement under which the university paid \$7.6 million to the federal government. NSF's share of the settlement was \$438,821. **(Page 29)**

- In five separate cases, employees of awardee institutions abused positions of trust for personal gain. Four of the cases involved using grant and university funds for personal purchases, and in the fifth, an awardee contracting officer engaged in a kickback scheme. Such abuse violates federal as well as state and local criminal laws. **(Page 30)**
- A graduate student who committed verbatim plagiarism and intellectual theft when he published a paper derived from his graduate research and omitted any reference to his U.S. advisor, was found by NSF to have committed research misconduct, sent a letter of reprimand, and debarred for 5 years, consistent with OIG's recommendations. Because the actions were so serious, and had a lasting, adverse effect on the U.S. advisor's research and the relationship between collaborating scientists, we considered the student's conduct to be egregious. **(Page 43)**

OIG Management Activities

Appointment of New IG

Allison C. Lerner assumed the duties of Inspector General (IG) of the National Science Foundation (NSF) in April 2009, reporting to the National Science Board and the Congress. Ms. Lerner previously served as Counsel to the Inspector General at the Department of Commerce, a position through which she acted as the IG's principal legal advisor and managed the office's staff attorneys and legal services.

Ms. Lerner began her federal career in 1991, joining the Office of Inspector General at Commerce as assistant counsel, and has been a member of the senior executive service since 2005. During her tenure at Commerce she also served as special assistant to the IG, Deputy Assistant Inspector General for Auditing, and Acting Assistant Inspector General for Auditing. Prior to joining the federal government, she was an associate at the law firm of Foster, Lewis, Langley, Gardner & Banack in San Antonio, Texas.

The President's Council on Integrity and Efficiency (PCIE) has honored Ms. Lerner with three awards for excellence: in 2001, for her work reviewing the Department of Commerce's management of 5,000 intra-agency and special agreements worth over \$1 billion; in 2002, for her assistance in a complex investigation of false claims submitted under a financial award from the National Institute of Standards and Technology; and in 2005, for her review of a controversial Booz-Allen Hamilton study that recommended significant structural changes to the National Oceanic and Atmospheric Administration's Office of Finance and Administrative Services.

Ms. Lerner received her law degree from the University of Texas School of Law and a B.A. in liberal arts from the University of Texas. She is admitted to the bar in both Texas and the District of Columbia.

The American Recovery & Reinvestment Act

As part of the American Recovery and Reinvestment Act (ARRA) signed into law on February 18, the National Science Foundation received \$3 billion in stimulus funding and the Office of Inspector General received \$2 million to provide oversight of NSF's funds. As this is written, NSF is currently working with OSTP, OMB, and Congress on its spending plan, which is expected to be approved sometime in April.

While waiting to review NSF's final plan, OIG is taking a two-stage approach to its ARRA responsibilities: 1) a *proactive* phase for risk mitigation activities that can be accomplished in the near term to



NSF IG Allison Lerner

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help the agency and OIG prevent problems and prepare for more substantive work and; 2) an *operational* phase during which audits, investigations, and other types of reviews are conducted. Since the Recovery Act was passed, OIG staff have taken the following proactive steps:

- Staffed and organized an internal working group to coordinate OIG Recovery Act planning.
- Participated on five NSF ARRA implementation teams that are engaged in planning how the agency will execute its plans.
- Developed audit and investigative plans for both proactive and operational phases.
- Shared informational resources with the agency concerning the management of grant fraud risk.
- Reviewed past audit and investigative findings for their relevance to Recovery Act implementation efforts.
- Re-evaluated OIG staffing needs and applied to OPM for additional hiring authority.
- Begun filing monthly reports on-line about its major actions and expenditures related to the Recovery Act.

In addition, our office has joined a working group of OIGs from agencies that are receiving Recovery Act funds and holding regular meetings with the new Recovery Accountability and Transparency Board to coordinate their activities and share best practices. The purpose of the Board is to coordinate and conduct oversight of Recovery Act funds to prevent fraud, waste and abuse.

Congressional Testimony

Thomas C. Cross, NSF's Interim Inspector General testified before the House Committee on Science and Technology, Subcommittee on Investigations and Oversight on March 19, 2009 to discuss how the OIG intends to perform its oversight responsibilities under the Recovery Act. Mr. Cross discussed OIG's plan for monitoring NSF's Recovery Act spending, challenges facing NSF with regard to the Recovery Act, and OIG efforts to address its own staffing needs to perform Recovery Act work.

Mr. Cross stated that the office will pursue a strategy aimed not only at safeguarding Recovery Act funds from waste, fraud and abuse, but also at helping assess whether those funds produce the results sought by the Act. Based on past OIG work, Mr. Cross noted that major research equipment (MREFC) expenditures, NSF's post-award monitoring, and the agency's management of contracts as areas that OIG considers high-risk for Recovery Act purposes. He concluded his testimony by commenting on OIG staffing, saying that options for hiring temporary staff were being explored, while the office sought approval to add additional auditors and investigators in 2010. The full text of his testimony is available on our website at: <http://www.nsf.gov/oig/oignews.jsp>

Legal Matters

As reported in past Semiannual Reports, the 2007 NSF Reauthorization Act, enacted in August 2007, amended the PFCRA to bring the National Science Foundation within the statute's coverage. This amendment was supported by both OIG and NSF because it gave the agency authority to use administrative procedures to recover losses resulting from fraud cases under \$150,000 when the Department of Justice declines to prosecute. On December 30, 2008, NSF published proposed PFCRA regulations in the Federal Register for comment. Once final regulations are issued, NSF will be able to use this powerful tool to recover funds diverted due to fraud and ensure that appropriated funding serves its intended purpose.

Outreach

During this semiannual period, the Outreach efforts of our office were challenged as a result of both an increase in their audit and investigative workload and budgetary constraints imposed as the result of a continuing resolution. As a result of these challenges, we had less of an opportunity to bring our message to the research community by means of presentations at universities, societies, and other organizations. This is a significant issue in light of the Recovery Act's proactive emphasis, and its enactment of additional outreach and training requirements to prevent or mitigate fraud, waste, and abuse related to Recovery Act funds. Recognizing the importance of meaningful communications with stakeholders such as the Congress, the National Science Board, and the National Science Foundation as well as with major institutions, national and international research organizations, and other federal agencies and their OIGs, essential outreach activities continued during this period.

Our continuing efforts to encourage the research community to embrace compliance-based programs at every research institution proceeded at a reduced number of outreach events targeting university officials, research administrators, principal investigators, students and post-docs, and international funding agencies. We highlighted the value of such programs and the significant risks that are assumed when universities and other members of the research community fail to develop and implement such programs. In a number of OIG presentations that were appreciated by our audiences, we included case studies of recent prosecutions that have resulted in prison sentences for those found guilty of committing fraud. We also increased access to our outreach material through a redesign of our webpage, making available updated brochures, presentations, and posters for the workplace.

Working with the International Community

During this semiannual period, Inspector General Boesz participated in international forums addressing the prevention of, and response to research misconduct. In October, Dr. Boesz attended a conference in Beijing sponsored by China's Ministry of Science and Technology, and visited China's National

Natural Science Foundation as well as NSF's Beijing office. On November 17-18, she and the Associate Inspector General for Investigations, Dr. Peggy Fischer, attended a workshop hosted by the European Science Foundation, where Dr. Fischer presented on Investigating Allegations of Research Misconduct, and Dr. Boesz reported on the activities of the Global Science Forum.

Prior to her retirement in January, Dr. Boesz served as the Co-Chair of the Coordinating Committee for International Research Misconduct Investigations of the Global Science Forum (GSF). This committee comprises 30 nominated participants from 25 countries and international organizations. It held three meetings in Washington, D.C., Paris, and Vienna. The IG, together with the AIG for Investigations, played a significant role in the drafting of the Coordinating Committee's white paper entitled "Global Science Forum Best Practices for Ensuring Scientific Integrity and Preventing Misconduct," a report that the GSF Chair called "one of the best pieces of work the Forum has ever done." This important document will provide a basis for Research Integrity Frameworks in international collaborations.

In addition, other OIG staff participated in numerous meetings and presentations to further the Inspector General's international efforts. Members met with and briefed delegations from the European Science Foundation, the Science Foundation of Ireland, Health-Canada, and the Research Council of the United Kingdom. In each forum, OIG personnel explained our processes and oversight procedures, and answered questions from our international audiences.

Working with the Research Community

OIG Staff Participate in Conferences. From among the wide range of workshops, conferences, and other events sponsored by institutions and associations of research professionals that invited our participation, we sought to identify those that offered the greatest opportunity to connect with the research community as a whole. We presented to the Society of Research Administrators International and addressed the national meeting of National Council of University Research Administrators. We conducted an outreach event at the American Association for the Advancement of Science (AAAS) that we hope will facilitate closer cooperation in the future. We met with editors from AAAS's Nature Magazine and discussed ways to address matters of mutual concern. Additional community-wide outreach events included two NSF Regional Grants Workshops and a presentation to NSF's Ethics Education in Science and Engineering Awardees. Through these interactions with the research community, we sought to inform key groups on best practices that have been identified and to encourage the development of systems to detect, resolve, and prevent the recurrence of misconduct or mismanagement within the research enterprise.

OIG Staff Present at Universities. We continue to receive many invitations to give presentations to, train, or consult with university officers and other organizations associated with the research enterprise. We addressed numerous groups that were involved in either applying for or administering NSF awards, performing supported research, or conducting university-level inquiries into allegations of research misconduct. During this semiannual period we made nine such presentations at universities. During each, we shared best practices on the enhancement of compliance and ethics programs that can contribute

to decreasing the recurrences of research misconduct. We also explained relevant rules, addressed risk factors of which they should be aware, and shared case studies and lessons learned during our audits and investigations. Our staff answered questions and provided fact sheets, brochures, posters, and other educational materials.

Working with the Federal Community

During this semiannual period, NSF OIG personnel interacted with their counterparts in the federal community, including other federal OIGs, in a number of capacities. Our experience in grant fraud investigations enables us to take an active role in leading federal efforts to limit such misconduct. As in the past, we participated in numerous events and initiatives established to coordinate the fight against grant fraud. These included the National Procurement Fraud Working Group and the Grant Fraud Subcommittee of the Department of DOJ's National Procurement Fraud Task Force, in which we contributed significantly to the latter's publication of "A Guide to Grant Oversight and Best Practices for Combating Grant Fraud."¹



CIGIE Chair Phyllis Fong speaks at Dr. Boesz' retirement event.

We worked with other federal agencies and Offices of Inspectors General on a variety of matters. These included meetings and events in conjunction with the Office of Management and Budget, the Department of Justice, the Government Accountability Office, the Department of Agriculture, and the Department of Homeland Security. Such professional interactions were often sought to address requests for particular assistance, but also occurred within the context of the Council of Counsels to Inspectors General and various committees of the Council of the Inspectors General on Integrity and Efficiency (CIGIE).

The Interim Inspector General continued in the role of the previous NSF IG as the Chair of the CIGIE Misconduct in Research Working Group. The Working Group coordinates efforts within the IG community to identify, investigate, and prevent research misconduct. Additionally, we continued to participate in the Federal Audit Executive Council and the Financial Statement Audit Network.

Finally, we provided requested information to committees in both the Senate and House, including the Senate Finance Committee, the House Committee on Oversight and Government Reform, the House Science and Technology Committee, and the House Rules Committee, on NSF management issues and our plans for implementing the Recovery Act.

Working with NSF

During this semiannual period, we routinely made presentations to the National Science Board to keep the leadership of NSF informed of matters of importance for the oversight of agency operations. We have also continued our extensive outreach to NSF. The goal of our outreach mission is to constantly improve communications between OIG and agency personnel. Our NSF liaison

¹ <http://www.usdoj.gov/oig/special/s0902a/final.pdf>.

program has built on our prior success in establishing and maintaining effective communication and professional relationships with the individual directorates and offices within NSF. Our liaison teams (generally one investigator and one auditor) served as valuable conduits of information between our offices in the course of approximately 25 liaison events.

In addition, we gave briefings at 14 NSF orientations for new employees on the mission and role of OIG and how they can bring matters of concern to our attention. We also continued to participate in joint activities with NSF, including four Program Management Seminars. These sessions provided OIG staff an opportunity to develop personal and professional relationships with their NSF colleagues and learn about new developments within NSF programs, while educating our colleagues about the activities of NSF OIG. We participated in the NSF "Green Day" activities and in the NSF "Got Green" initiative. Our staff provided input for the design of a new NSF intranet and for a new NSF training module on the Notification and Federal Employee Anti-Discrimination and Retaliation (NO FEAR) Act. We also continued our internal media communications within NSF, whereby we educate NSF staff about OIG in general and our Hotline in particular.

Finally, during this semiannual period we have conducted extensive interaction with NSF concerning the development of NSF plans and processes relating to the Recovery Act. Members of our staff have been invited to participate in teams assembled by NSF to address Recovery Act pre-award, budget, post-award, contracting, and reporting issues. We look forward to working collaboratively with NSF to contribute to the successful completion of these tasks.

Audits & Reviews

In this semiannual period the Office of Audit successfully passed its triennial external peer review, completed the required audit of NSF's fiscal year 2008 financial statements, and addressed anonymous concerns about a Directorate's supplemental funding research awards. In addition, we completed seven audits of awardee institutions, in which the need for better subaward monitoring was a common finding. We also reviewed 205 annual single audits of NSF awardees that reported a total of 249 findings. Finally, we worked with NSF to resolve findings and recommendations on 8 audits completed in prior periods, including one in which NSF sustained \$3.3 million of questioned costs.

Office of Audit Quality Control System Passes External Peer Review

During this semiannual period, the Office of Audit successfully passed external peer review for the year ended September 30, 2008. The review was conducted by the National Credit Union Administration (NCUA) Inspector General, who found that the Office's quality control system provided reasonable assurance of conformance with auditing standards promulgated by the U.S. Comptroller General, and issued a "clean" opinion.

Audit organizations performing audits and attestation engagements in accordance with Government Auditing Standards (GAS) must undergo triennial external peer review by reviewers independent of the audit organization. The reviews are conducted in accordance with guidelines established by a Council of Inspectors General and focus on the audit organization's quality control system. A quality control system includes the office's organizational structure and its policies and procedures that help ensure it complies with GAS.

The review team examined six audit reports, including reviewing the supporting workpaper documents to assess the quality of the audit planning, execution, reporting and supervision. The review team also evaluated the adequacy of the Office of Audit's established policies and procedures and interviewed a random sample of staff to determine their level of knowledge of the requirements. A copy of the final peer review report is posted on the OIG website.

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Significant Internal Reports

FY 2008 Independent Auditors Issue Unqualified Opinion; Management Letter Cites Need for Improved Contract Oversight, Grant Processing, and Accounting for Property

An audit of NSF's Fiscal Year (FY) 2008 financial statements resulted in the agency again receiving an unqualified opinion. Clifton Gunderson LLP conducted this audit under a contract with OIG.

However, the FY 2008 Management Letter identified seven findings, some of which included elements of prior years' findings related to NSF's operations and financial reporting controls. The Management Letter reported continuing weaknesses in NSF's grants processing and documentation. For example, the auditors repeated their prior recommendation that NSF revise its Site Visit Review Guide for assessing institutions with high risk awards to provide specific guidance for reviewers to document their review steps and the results. The auditors also recommended that NSF: 1) prevent future awards to grantees that have not provided final cost sharing certifications; 2) review supporting source documentation before approving payments to problem institutions placed on special payments; and 3) specify deadlines for NSF staff to complete the draft and final reports on its reviews of NSF's large facilities and obtain corrective action plans.

Regarding contract monitoring, the auditors recommended that NSF expand the scope of its quarterly expenditure reviews of NSF's high risk contractors to include verifying that the amounts recorded in the contractor's general ledger represent costs that are allowable and benefitted the NSF contract. The auditors also recommended that NSF: 1) develop policies and procedures for contract close-out and for requiring contracting officers to ensure that contractors submit incurred cost reports (which are essential to ensuring that NSF's contracts are administered properly) and; 2) obtain cost incurred audits of its largest contractor to verify and validate costs charged to the contract.

Finally, the auditors reported a finding related to NSF's reporting of property, plant, and equipment (PP&E), involving late transfers from the Construction in Progress account resulting in understating the capitalized real property account. Auditors also expressed concern about the lack of an integrated PP&E system and annual reconciliations of physical inventory to the general ledger that could result in errors in the agency's property accounts. The auditors recommended that NSF: more closely monitor transfers to the real property account; ensure that NSF's planned new property system is integrated with the financial accounting system; and enforce the requirement for a complete annual physical inventory of real property, including reconciling the property inventory listing to the general ledger.

NSF management generally concurred with the Management Letter and, in some instances, NSF is developing alternative approaches to resolve the findings. The FY 2009 financial statement audit will evaluate NSF's actions in response to the findings and recommendations to determine whether these issues have been corrected.

Approval Needed To Deviate from Merit Review Process

An OIG audit found that while NSF's Computer and Information Science and Engineering (CISE) Directorate appeared to have had a proper basis to request a deviation from NSF's standard merit review process to make supplemental awards for the Measurement and Signatures Intelligence (MASINT) Program, it did not obtain the required Director's approval for the deviation. The audit was conducted in response to concerns raised by an anonymous source. CISE also did not adequately document and communicate the reasons for the deviation from standard policies and procedures to the NSF grant staff responsible for making the awards. Consequently, concerns on the part of grant officials about the lack of merit review led to funding delays and additional investigations and reviews. Further, the lack of approval and documentation created the appearance that one of NSF's most important and fundamental quality control processes was being undermined and circumvented.

OIG recommended that CISE request, on a program-wide basis, the required authorization from the NSF Director to waive the merit review of all MASINT proposals for supplemental awards for out-year funding and document the waiver in NSF's electronic grants file, in accordance with NSF's policy, as well as ensure that each existing affected MASINT electronic file contain all of the required documentation. Additionally, we recommended that NSF issue a memorandum to all NSF staff reminding them of the requirement for merit review of supplemental award proposals and provide cross-references in the agency's Proposal and Award Manual to link these requirements for supplemental awards to its general merit review policies. NSF concurred with our findings and has completed corrective actions implementing all of the report's recommendations.

Significant Grant and Contract Audits

Among audits of NSF awardees completed this semiannual period we found that four grantees had significant internal control weaknesses related to monitoring subawards, including in one case, foreign subawardees who charged \$6.7 million of costs in one year. OIG auditors also found that a major research university lacked controls to verify the propriety of \$12.8 million of labor effort charged to NSF awards, and an NSF contractor audited for the third time continued to violate Cost Accounting Standards and may have to reimburse NSF for an undetermined amount of additional questioned costs. Each of these audits is discussed separately below.

Audits of Four Non-Profit Grantees Find Lack of Oversight of Subrecipients

Awardees that pass through federal funds to subrecipients are required to monitor them by methods such as reviewing financial and performance reports, performing site visits, or otherwise ensuring they have adequate financial systems to manage federal funds. However in four audits of non-profit organizations with more than \$14 million of subawards, we found a consistent pattern of inadequate subrecipient oversight. Without adequate controls over subrecipient monitoring, NSF risks paying substantial subaward costs in the future without adequate assurance that these payments are permissible.

Civilian Research & Development Foundation. At NSF's request, the OIG audited \$14.8 million of FY 2006 costs claimed by the Civilian Research & Development Foundation (CRDF) and found that CRDF lacked adequate administrative and financial controls for monitoring its foreign subrecipients and managing its indirect cost allocation practices to ensure proper use of federal funds. CRDF is a nonprofit organization authorized by the U.S. Congress under the Freedom Support Act (Public Law 102-511) and was established in 1995 to provide cooperative research and development opportunities to scientists and engineers in the independent states of the former Soviet Union.

The audit disclosed significant internal control weaknesses in CRDF processes to oversee hundreds of foreign subrecipients that could increase the risk for fraud and unallowable costs being charged to the NSF award. CRDF payments to foreign subrecipients accounted for approximately \$6.7 million in direct costs, representing 71 percent of CRDF's total direct costs charged to NSF award in FY 2006.

Specifically, CRDF failed to consistently follow its policies related to Individual Financial Support payments to its foreign principal investigators involved in CRDF research programs. Our review disclosed that about 40 percent of the almost \$3 million in FY 2006 support payments were not adequately supported by labor effort reports as required by CRDF procedures. Also, CRDF: (a) did not adequately ensure that required annual audits of its four subrecipient grant-making organizations established in the former Soviet Union were consistently conducted; (b) made payments to these organizations without proper verification and review of necessary supporting documentation; and (c) improperly allocated administrative service contract costs for these four organizations to the NSF award on a subjective basis. These weaknesses create substantial risk for potential fraudulent and unallowable costs to be charged to the NSF grant.

In addition, we determined that CRDF did not establish guidance to ensure that its employees properly identified and excluded unallowable and unallocable costs from its indirect costs pool. As a result, CRDF charged \$376,199 of questioned costs to the indirect cost account, including over \$297,000 to engage in unallowable fundraising, public relations, and promotional activities. This resulted in CRDF's FY 2006 indirect cost rate being overstated by 2.04 percent and \$191,696 of indirect costs being overcharged to the NSF award. Through FY 2009, we estimate that \$1,153,497 of federal funds could be put to better use by applying the lower indirect rate to all CRDF federal awards.

In response to our recommendations, CRDF indicated that it has or is in the process of taking corrective actions to improve its oversight of its foreign subrecipients. But CRDF disagreed with the questioned costs because it believed such costs were allowable because of either longstanding CRDF practice or inclusion of the costs in its Business Plan submitted to NSF. However, the legal binding Funding Arrangement between NSF and CRDF clearly states that grant costs allowability will be based on the Federal cost principles. Therefore, we continue to disagree with CRDF on the allowability of these costs and reaffirm our audit conclusions and recommendations. NSF stated that without first coordinating with CRDF, it lacked sufficient information on which to take a position on the report findings and recommendations. Therefore, we requested that NSF provide its management decision and planned corrective actions to address the report recommendations within 120 days of the report's issuance.

Exploratorium. An OIG audit of Exploratorium, a non-profit educational organization and science museum, identified three significant compliance and internal control deficiencies resulting in \$340,204 in questioned costs. Two of the three deficiencies were repeat findings that Exploratorium's external auditors had cited in its 2003 Single audit report and management letter.

The auditors found that Exploratorium performed limited subaward monitoring on \$6 million of subaward costs (54 percent of the total costs claimed on the awards), a condition noted previously in its 2003 and 2007 OMB Circular A-133 audit report management letters. This occurred because Exploratorium relies exclusively on the representations made by its subawardees to ensure costs are reasonable, allowable, and allocable rather than performing its own independent verification of those assertions using a risk-based approach to determine the level of monitoring necessary.

In the case of one subawardee, the auditors questioned \$227,109 (representing 25 percent of the sample tested) because it used *estimated* rather than *actual* costs for a variety of expenses including salaries and wages, consultants, travel, and indirect costs. They also questioned \$7,676 in unsupported subaward costs for consultant, material, travel and other expenses; and \$82,919 because Exploratorium did not provide adequate support for other direct costs. Finally, Exploratorium overstated project costs by \$22,500 because program income it received during the term of the award was not used to offset NSF-funded costs or added to the project in furtherance of its objectives, as required.

The auditors recommended that Exploratorium revise its subaward monitoring procedures to include a proactive review of its subawardee's OMB Circular A-133 report findings and a formal risk assessment process for determining the level of monitoring necessary. Recommendations were also made to revise its procedures to properly account for program income, and comply with existing procedures to support costs claimed with sufficient supporting documentation. Exploratorium concurred with all of the report findings and indicated that it was taking corrective action.

Education Development Corporation. OIG audited four awards with \$14.2 million in costs claimed by Education Development Center, Inc. (EDC), an international non-profit educational research organization, and identified three compliance and internal control deficiencies in EDC's financial management that resulted in \$3,346 in questioned costs.

EDC did not perform adequate fiscal monitoring on \$1.3 million, or 9 percent, of the subaward costs it charged to the NSF awards, to ensure that subawardee expenditures were allowable, allocable, and reasonable. This occurred because EDC does not have a formal plan for monitoring subawardees, nor does it attempt to verify the adequacy of the subawardees' controls to ensure the costs they report are valid. EDC manages 335 projects in 50 countries, including 35 other NSF awards. Without adequate routine subaward monitoring EDC cannot ensure that the \$1.3 million of subaward costs charged to the four audited NSF



A child inspects the Wall of Lights exhibit at the San Francisco Exploratorium.

awards or to any other NSF awards are valid and allowable. In addition, EDC did not provide support for \$3,346 in NSF funded meal costs and did not evaluate the reasonableness of meal costs associated with participant events.

We recommended that EDC develop and implement a formal subaward monitoring plan that includes performing a risk assessment to determine the level of monitoring needed for each subaward; ensure that claimed costs for meals are supported with itemized receipts; and revise its policies and procedures to document how reasonableness of meal costs is determined. EDC concurred with all of the report findings and indicated that it was taking corrective action.

American Institute of Physics. An audit of a \$2.3 million award made to the American Institute of Physics (AIP) for scientific media production services found significant internal control deficiencies in its subcontract management. The audit found that AIP's procurement practices were not in accordance with federal requirements because it did not always: 1) obtain adequate cost and pricing data prior to awarding its subcontracts; 2) identify the total price and type of award (fixed-price or cost reimbursable); or 3) include clauses with provisions for termination, access to records or record retention in its subcontracts. In addition, AIP did not adequately monitor its subcontracts in a timely manner. Consequently, there is no assurance that AIP's and NSF's interests were adequately protected under the subcontract agreements or that the subcontractors' invoiced amounts were accurate, reasonable and in support of the NSF award.

AIP awarded three subcontracts for production, marketing, and distribution services and for scientific news stories which represented thirty-nine percent of the total costs claimed on the award. In total, the audit questioned \$77,658 subcontract costs representing 9.7 percent of the total \$798,528 claimed in subcontract costs. Of the questioned costs, \$52,658 related to income due from a subcontractor that AIP had terminated due to poor performance. The remaining \$25,000 of the questioned costs related to invoices paid to another subcontractor for products that were not completed in accordance with the contract. Finally, AIP did not meet either its original or revised television subscription sales milestones of \$317,500 and \$255,700 respectively for 2006. Actual subscription sales for 2006 were \$81,000, thereby increasing the possibility that the project would not become self-sustaining as originally proposed by the end of the NSF award period.

We recommended that, for all future subcontracts under NSF awards, AIP develop and implement policies and procedures to obtain adequate cost and pricing data; specify the type of subcontracts awarded; and include all federally-required clauses in subcontracts. We also recommended that AIP establish adequate subcontractor monitoring procedures and work with its subcontractors to obtain additional television subscriptions. AIP generally disagreed with the recommendations and many of the findings presented by the auditors. The report was provided to the Division of Institution and Award Support for resolution.

University of Arizona Not Using Suitable Means of Validating Labor Charged to NSF Grants

Officials at the University of Arizona approved labor charges to federal awards without having knowledge of the work performed by its employees, as required by federal regulations, according to an OIG audit of Arizona's effort reporting system. The report states that department administrative officials approved 770 of 780 effort reports amounting to \$709,520 in labor costs for a sample of 30 employees without having a basis to know whether the work was actually performed as shown on the effort reports. The significant nature of this control weakness raises concerns about the reasonableness and reliability of the \$12.8 million of FY 2007 labor charged to NSF grants or the \$94.4 million in labor charges to other federal awards.

Administrative officials relied on employee time sheets as a means to validate labor effort charged to NSF awards despite the fact that in most cases the time cards did not assign the employee's hours to specific projects or activities. Furthermore, the officials using these timesheets approved labor effort every two weeks for as many as 400 employees in their individual departments. Federal regulations require that university labor activities charged to federal awards must be confirmed by either the employee conducting the work or by an official that is in a position to know whether the work was performed. In addition, the audit identified internal control weaknesses that allowed faculty to exceed NSF summer salary limitations, resulting in \$16,584 in overcharges;² and cited Arizona for failing to conduct independent evaluations of its labor reporting system as required by federal regulations.

These weaknesses occurred because prior to FY 2008, Arizona did not place sufficient emphasis on effort reporting. Specifically, Arizona had not: 1) established sufficient written guidance for all effort reporting processes to ensure full compliance with Federal requirements, 2) performed adequate monitoring to ensure all Arizona departments complied with established effort reporting policies and procedures, and 3) ensured cognizant personnel received adequate training on their effort reporting responsibilities. Arizona concurred with the findings and recommendations and implemented an interim system to address many of the issues in our report. A new electronic financial management system is scheduled to be operational in calendar year 2010 at which time Arizona will implement final corrective actions.

CAS Violations Found Again in Third Audit of NSF Contractor

An audit of four contracts with \$2.9 million in costs billed to NSF in 2004 revealed that Abt Associates, a for-profit research and consulting firm, may be incorrectly recording \$2.5 million in employee pension costs, resulting in overcharging indirect costs to its government contracts. In addition, Abt changed its method of accounting for indirect costs without prior government approval. In both of these instances Abt did not comply with its disclosed accounting practices, which is a violation of federal Cost Accounting Standards (CAS). Both of these accounting issues will be resolved by Abt's federal cognizant contracting agency, U.S. Agency for International Development (AID).

² NSF limits faculty summer pay to no more than two-ninths of academic salary.

The audit was the last in a series of three audits that the OIG contracted with the Defense Contract Audit Agency (DCAA) to perform on costs that Abt claimed on NSF contracts for 2002 through 2004.³ DCAA issued a qualified opinion on Abt's FY 2004 costs claimed because the CAS violations may result in questioned indirect costs that cannot be determined until the accounting change and employee pension cost issues are resolved.

The report recommends that NSF coordinate with AID to resolve Abt's CAS noncompliance issues and determine the amount of unallowable costs charged to NSF contracts. We forwarded the audit report to NSF's Division of Acquisition and Cooperative Support to resolve any questioned costs and ensure corrective actions are taken.

Bermuda Institute of Ocean Sciences Found Financially Capable for Performing Government Grants

An audit of the financial capability of the Bermuda Institute of Ocean Sciences (BIOS), a non-profit organization providing ship operations for research vessels and Atlantic Ocean current studies, found that the grantee's financial condition is acceptable for performing on government grants in the current and near term through October 31, 2009. The audit evaluated BIOS' audited financial statements and current cash flow forecasts, net worth, assets, liabilities and key financial ratios.

BIOS recently underwent a major expansion with the purchase of a new research vessel, *The Atlantic Explorer*, and a building program to enhance its research capabilities and establish a platform for oceanographic research in the Mid-Atlantic. BIOS' expansion resulted in increased debt, however long-term liabilities are decreasing and most key financial ratios indicate positive trends. We forwarded a copy of the audit report to NSF's Division of Institution and Award Support and suggested NSF monitor BIOS' future annual financial statements and financial condition.

A-133 Audits

Single Audits Identify Substantial Lack of Controls over Federal Funds and Noncompliance with Federal Requirements

OMB Circular A-133 provides audit requirements for state and local governments, colleges and universities, and non-profit organizations receiving federal awards. Under this Circular, covered entities that expend \$500,000 or more a year in federal awards are required to obtain an annual organization-wide audit that includes the entity's financial statements and compliance with federal award requirements. Non-federal auditors, such as public accounting firms and state auditors, conduct these single audits. The OIG reviews the resulting audit reports for findings and questioned costs related to NSF awards, and to ensure that the reports comply with the requirements of OMB Circular A-133.

³ We reported on costs claimed in 2002 by Abt Associates in the September 2007 Semiannual Report, p. 16 and reported on 2003 costs in the September 2008 Semiannual Report, p. 18.

For the 205 audit reports reviewed this period, covering NSF expenditures of more than \$5 billion during audit years 2005 through 2007, the auditors issued seven qualified or disclaimers of opinion on the financial statements and 20 adverse or qualified opinions on the awardees' compliance with federal grant requirements. NSF is the cognizant or oversight agency for audit⁴ for six of the awardees which received less than unqualified opinions, and therefore has responsibility to coordinate resolution of the audit findings on behalf of the affected federal agencies.

Of the 205 reports, 96 reports disclosed findings for the year under audit at a variety of NSF awardees, including major universities, school districts, and non-profit organizations. Auditors identified 160 instances where awardees failed to comply with federal requirements, 33 of which resulted in more than \$1.8 million in questioned award costs and nearly \$350,000 in cost-sharing shortfalls for NSF awards. Auditors also identified 87 instances where inadequate internal controls could lead to future instances of noncompliance.

The auditors identified material weaknesses and/or significant deficiencies in 68 reports, indicating substantial concerns about the awardees' ability to manage NSF funds. The auditors reported the following examples of awardees' lack of internal controls and noncompliance with federal requirements:

- untimely and/or incorrect reporting of time and effort;
- inadequate support for salary/wages, equipment, travel, and indirect costs charged to awards;
- inadequate monitoring of subrecipients;
- inability to prepare the financial statements;
- inadequate support for participant support costs and/or unauthorized movement of funds out of the participant support budget category;
- procurement systems that fail to properly ensure competition and/or monitor to prevent procurement from suspended or debarred parties;
- failure to submit financial and/or progress reports on time; and
- inability to meet cost sharing commitments.

We also examined 103 management letters accompanying the A-133 audit reports. Auditors issue these letters to identify internal control deficiencies that are not significant enough to include in the audit report, but which could become more serious over time if not addressed. The letters disclosed a total of 97 deficiencies that could affect NSF awards in areas such as tracking, managing, and accounting for NSF costs and segregation of duties – control processes that are essential to ensuring stewardship of NSF funds and to prevent fraud and abuse.

We provided the results of each audit report to NSF and, where appropriate, highlighted our concerns related to opinions or findings. In certain instances, such as reports which contained findings repeated for three or more consecutive years and/or reports which identified \$100,000 or more in questioned costs

⁴ The "cognizant or oversight agency for audit" is defined as the federal agency which provided the largest amount of direct funding to an awardee. On a 5-year cycle, OMB assigns a cognizant agency for audit to awardees who expend \$50 million or more in federal funds in a year. On an annual basis, OMB assigns an oversight agency for audit to awardees who expend less than \$50 million in federal funds in a year.

to NSF awards, we requested that NSF coordinate with us during the audit resolution process. Although A-133 does not require NSF to take action on systemic findings when another agency is the cognizant or oversight agency for audit, we believed it prudent to bring these issues to the attention of NSF officials and to monitor the actions taken by NSF to improve controls in place at the awardee level. During this reporting period, NSF completed resolution of nine reports, and in each case opted not to contact the responsible agency during resolution to coordinate efforts, but instead decided to rely on the awardees' corrective action plans and future monitoring of subsequent reports to see whether the findings are repeated.

While A-133 audits are, by design, “big picture” audits and are helpful to identify systemic issues, they may not always include in-depth testing of NSF awards. As part of our annual audit planning process, we use the results of the single audits to identify awardees whose lack of controls pose a higher risk to NSF funds and therefore may warrant OIG audits of specific NSF awards.

OIG Oversight Continues to Identify Timeliness and Quality Problems with Single Audits

The audit findings contained in A-133 reports help to identify potential risks to NSF awards and are useful to both NSF and the OIG in planning site visits, post-award monitoring, and future audits. Because of the importance of A-133 reports to the process of overseeing awardees, the OIG reviews all reports for which NSF was the cognizant or oversight agency for audit, and provides guidance to awardees and auditors for the improvement of audit quality in future reports. In addition, OIG returns reports that are deemed inadequate to the awardees to work with the audit firms to take corrective action.

The Federal Audit Clearinghouse routinely makes available reports for audit years 2007 and prior when the audit covers \$50 million or more of expenditures and/or the Data Collection Form⁵ identifies current or prior year findings. However, due to resource limitations at the Clearinghouse, audit reports which do not meet these criteria have not been provided to federal officials unless requested. As part of our ongoing efforts to improve the quality of single audits, we undertook a special review of reports under NSF oversight without any identified audit findings. This “Oversight Project” review demonstrated that reports *without* audit findings had similar timeliness and quality issues as reports *with* audit findings.

Of the 108 audit reports⁶ we reviewed (including 79 reports in the “Oversight Project”), 70 (65 percent) did not fully meet federal reporting requirements. For example, we found that 26 reports (24 percent) were submitted late or the initial audit reporting package was incomplete. Other findings include:

- For 34 reports (31 percent), the Schedule of Expenditures of Federal Awards did not provide sufficient information to allow for identification of awards received from non-federal “pass-through” entities;
- Twenty-seven reports (25 percent) contained findings which did not adequately identify the federal award(s) to which the findings applied, the

⁵ Also known as Form SF-SAC, this form summarizes the results of the audit and is used by Federal agencies to quickly identify expenditures and findings which affect their awards.

⁶ The 108 reports were prepared by 65 different audit firms.

criteria or regulatory requirement upon which the findings were based, and/or the cause and effect of the findings;

- Seventeen reports (16 percent) either did not include a corrective action plan or the plan was incomplete to address the audit findings;
- The Data Collection Forms included with 13 reporting packages (12 percent) failed to accurately reflect the results of the audit, including 1 instance where the form failed to identify the existence of audit findings;
- For 11 reviews (10 percent), we identified quality issues which we had previously identified in reviews for the same awardees and auditors.

The OIG identified each of the potential errors and contacted the auditors and awardees, as appropriate, for explanations. In most cases, the auditors and awardees either provided adequate explanations and/or additional information to demonstrate compliance with federal reporting requirements, or the error did not affect the results of the audit. However, we rejected three reports due to substantial non-compliance with federal reporting requirements, including one report which was reviewed under the “Oversight Project.” We issued a letter to each auditor and awardee informing them of the results of our review and the specific issues on which to work during future audits to improve the quality and reliability of the report.

The uneven quality and potential problems raised by the reports sampled in the Oversight Project suggests that more of these reports should have been routed to federal officials for review. As a result of recent technological upgrades, single audit reports for audit years 2008 and beyond will routinely be made available to federal officials through the Federal Audit Clearinghouse. We will continue to monitor the quality of all audits under NSF cognizance or oversight.

Improvements Continue in Response to National Single Audit Sampling Project

We previously reported⁷ on the establishment of eight OMB workgroups to improve the quality and oversight of single audits. OIG staff continues to participate in the workgroup to revise the Council of the Inspectors General on Integrity and Efficiency (CIGIE) standards for conducting quality control reviews and desk reviews. During this period, several of the workgroups issued drafts to the National Single Audit Coordinators (NSAC) of proposed changes to Circular A-133 and related guidance. The proposed changes included the creation of new training requirements for auditors who perform single audits, clarification of definitions in OMB Circular A-133, and expansion of the guidance provided to auditors in the Compliance Supplement. NSF OIG staff provided comments in response to the drafts. The workgroup staff are currently consolidating NSAC comments and expect to issue exposure drafts of the proposed changes for public comment in the Federal Register during the next semiannual period.

⁷ September 2008 Semiannual report, pp. 21-22.

Audit Resolution

NSF Sustains \$3.3 Million of Questioned Costs from the Disclaimer of Opinion on the School District of Philadelphia

In September 2008,⁸ we reported that OIG auditors found the records supporting two NSF awards to the School District of Philadelphia (SDP) to be unauditible and therefore could not determine whether approximately \$13 million of direct and associated indirect costs and \$3.2 million of claimed cost sharing were allowable, allocable, and reasonable. Because of SDP's lack of documentation and its failure to take adequate corrective action on the internal control issues cited in a prior January 2000 OIG audit, NSF sustained \$3.3 million of the \$4.2 million in questioned costs. In its audit resolution, NSF indicated that correction of the cited internal control deficiencies was vital to an awardee successfully managing and overseeing its NSF funding. NSF further indicated it would not make awards to SDP until it could perform on-site verification to determine that it has adequate systems, policies and procedures in place.

WGBH Audit Results in \$775,939 Returned to Treasury and Correction of Prior NSF Error

In the March 2008 Semiannual Report,⁹ we reported on an audit of WGBH Foundation, a non-profit television production organization, which questioned \$808,383 of the approximately \$9.4 million in total costs claimed on five NSF awards. WGBH did not comply with either NSF or its own policies when it claimed and obtained reimbursement for \$775,939 for NSF project employment and rental contract costs before they were incurred. With the NSF appropriation supporting the grant set to expire, WGBH claimed these costs in advance to prevent losing access to the NSF Funds. WGBH believed that it had NSF's consent in claiming the \$775,939 of future costs and therefore disagreed with the questioned costs. The auditors also questioned \$32,444 of costs that either did not relate to the NSF awards or for which WGBH did not have adequate supporting documentation.

During audit resolution, NSF sustained \$801,646 of the total \$808,383 of questioned costs. However NSF rather than WGBH funded the majority of the recovered costs, because NSF's Office of General Counsel determined that the agency should have replaced the expiring funds at the time the award expired with a no-cost extension. NSF returned the \$775,939 from the expired appropriation to the U.S. Treasury Department and replaced the funds in the WGBH award with funds from an unexpired appropriation account. WGBH provided NSF with documentation for \$6,737 of questioned costs, but was requested to return \$25,707 of the remaining questioned costs for the unrelated and unsupported costs it had claimed.

To address the internal control weaknesses identified in the report, NSF required WGBH to provide for its review copies of WGBH policies and procedures for recording costs on its NSF awards and for maintaining documentation. NSF also required WGBH to develop, implement, and submit detailed policies and

⁸ September 2008 Semiannual Report, p. 17.

⁹ March 2008 Semiannual Report, p.17.

procedures for handling payments to foreign entities under NSF awards. Finally, NSF verified that WGBH developed an adequate policy for documenting service center rates.

Universities Required to Implement Changes to their Effort Reporting Systems

During this semiannual period, resolution was achieved on labor effort reviews of four universities that were previously reported: University of California, San Diego,¹⁰ University of Utah,¹¹ University of Illinois,¹² Urbana-Champaign, and Vanderbilt.¹³ In response to our audit findings, the universities have worked on implementing new time and effort systems to better meet federal effort reporting requirements, added internal control policies and structure to improve the timeliness of their labor effort certification processes, and provided training on charging effort to NSF sponsored awards. These actions should correct the deficiencies cited. NSF sustained \$87,820 of \$122,782 in questioned costs.

\$50,166 in Questioned Costs Sustained and Internal Control Weaknesses Corrected at the University of California, San Diego. In 2008, we reported that University of California, San Diego (UCSD) labor effort certifications, affecting approximately \$28 million of salary costs charged to NSF annually, were not timely and did not always ensure that salary and wages charged to NSF awards reasonably reflected actual work performed on sponsored projects.

As a result, the University instituted an automated effort reporting system (ECERT) to improve timeliness and accuracy of effort reports. UCSD also added new procedures to address the timeliness issue by notifying university officials about late certifications at progressively higher levels of supervision. In addition, UCSD has taken steps to strengthen its training program and ensure effort charged to NSF sponsored awards is accurately reported. These actions by UCSD should correct the deficiencies cited in the report. NSF sustained \$50,166 of the \$85,128 questioned costs and has verified that the sustained costs were repaid to NSF.

University of Utah Agrees to Implement Changes to its Effort Reporting System. The University of Utah has implemented a number of policy and internal control changes that should correct most of the deficiencies cited in the 2007 audit report. It agreed to establish a faculty and administrative committee to enhance its Personal Activity Report (PAR) submission guidelines to improve the timeliness of its effort reports. The University also clarified its guidance related to what constitutes “suitable means of verification”, to help ensure that individuals approving effort reports have a basis to know whether the work was actually performed. Finally, the University established mandatory effort report training for all employees involved in the PAR process.

¹⁰ September 2008 Semiannual Report, p. 17.

¹¹ March 2008 Semiannual Report, p.17.

¹² March 2008 Semiannual Report, p.16.

¹³ September 2008 Semiannual Report, pp 16-17.

\$6,329 in Questioned Costs Sustained, Internal Control Weaknesses Corrected at the University of Illinois. A 2008 audit report stated that the University of Illinois, Urbana-Champaign (Illinois) needed to improve the reliability of after-the-fact confirmation of actual salary charges to federal awards, which amount to \$86.3 million annually. Illinois reports that it has since developed and piloted a new web-based time and effort system that will make information on total labor charges available to certifying officials during their semi-annual certification period. In addition, formal written procedures have been implemented to improve the timeliness of Illinois's review and approval of labor effort reports. Finally, Illinois has agreed that as part of an annual risk assessment conducted by its internal auditors, the University's payroll distribution and labor effort report system will continue to be subject to periodic reviews, particularly to ensure compliance with federal laws and regulations. NSF sustained all \$6,329 in questioned costs.

\$31,325 in Questioned Costs Sustained and Internal Control Weaknesses Corrected at Vanderbilt University. In 2008, OIG auditors reported that Vanderbilt University did not approve effort reports timely and/or document certification dates in a majority of the records sampled. Vanderbilt states that it has since developed and implemented a web-based effort reporting system called Electronic Personnel Action Change system (ePAC), providing a more effective and timely labor effort certification system. In addition, the University has agreed to update its policies to reflect the changes brought about by ePAC. Vanderbilt's Provost Office issued written guidance to: improve the accuracy of labor effort charges, establish tolerance ranges when actual labor effort varies from amounts claimed, and provide for proper tracking and reporting of cost share commitments on sponsored projects. NSF sustained all of the \$31,325 in questioned costs.

NSF Removes Unallowable Profits from Arctic Contract

In our September 2007 Semiannual Report,¹⁴ we reported on two audits of a revised Disclosure Statement and an associated Cost Impact Proposal that VECO USA Inc. (presently CH2M HILL) submitted in regard to a proposed accounting change. The contracted auditors, Defense Contract Audit Agency (DCAA), took no exception to either the Disclosure Statement revision or the proposed increase in contract cost, but did not express an opinion on the \$45,240 of increased profit that VECO proposed to charge NSF as a result of its accounting change.

Shortly after DCAA issued its audit reports, NSF modified its contract with VECO to pay both the increase in contract cost due to the accounting change and the associated increase in profit. OIG followed up with a separate audit to review the allowability of paying the increase in profit under the arrangement entered into between VECO and NSF, and found that it was not allowable under the Federal Acquisition Regulations, which prohibit a cost-plus-a-percentage-of-cost system of contracting. NSF resolved this audit by reversing the entire \$45,240 increase in profit. As a result of this audit, NSF also discovered and reversed a similar \$10,283 increase in profit awarded earlier to VECO, recouping a total of \$55,523 of funds which can be put to better use.

¹⁴ September 2007 Semiannual Report, p. 15.

NSF Sustains \$22,796 of Questioned Costs Due to Internal Control Weaknesses at WestEd

In September 2008, we reported that OIG audited \$11 million of costs claimed by WestEd, a non-profit educational research organization, and identified four significant internal control weaknesses in WestEd's financial management that resulted in approximately \$1 million in questioned costs. During audit resolution WestEd provided documentation to support the portion of questioned costs that were cost shared. However, NSF requested that WestEd revise its cost share policy to ensure that in the future its supporting documentation provides the basis for determining the value of third party in-kind contributions, in accordance with federal guidelines. NSF also sustained \$15,130 in questioned subaward costs but urged WestEd to adhere to its subaward monitoring policy. In addition, NSF sustained \$7,666 in overstated indirect costs claimed as a result of misclassifying participant support costs and claiming sales taxes on alcoholic beverages. To prevent recurrences, WestEd is providing additional training to its program and accounting personnel and amending its accounts payable policy to exclude reimbursement of sales tax on alcoholic beverages. NSF will review the revised policies once they are completed and submitted by WestEd.

Work in Progress

OIG Monitoring NSF's Antarctic Support Contract Competition

NSF is currently deciding which contractor will manage the United States Antarctic Program (USAP) for the next 13.5 years. The new contract, NSF's largest, is expected to be valued at over \$2.3 billion and provides for Antarctic research logistics, support, and operations and facilities maintenance. The acquisition is one of NSF's self-identified significant management challenges because the process has inherent risks and represents a significant investment of NSF dollars.

In an effort to prevent the types of problems identified through audits of the current USAP contract, and share "lessons learned," we are monitoring NSF activities regarding this procurement. Specifically, we are requesting information on NSF processes for evaluating the reasonableness of the offerors' costs as required by Federal Acquisition Regulations. We also are asking how NSF plans to address issues such as the adequacy of the offerors' accounting systems and controls for complying with disclosed accounting practices. In providing independent advice during this pre-award phase of the procurement, we hope to assist NSF in identifying and managing the many risks involved in this large procurement at an early stage and thereby minimize future contract administration challenges and problems.

NSF's Audit Resolution Process

An audit of the process NSF follows to resolve the findings and recommendations of OIG and A-133 single audits conducted of NSF award recipients is proceeding. The objectives are to determine: 1) whether NSF has adequate policies and procedures for resolving and closing out the audit recommenda-



Deputy AIGA Jim Noeth receives a PCIE/ECIE Award for Individual Accomplishment.

tions, and 2) whether NSF implements the policies and procedures effectively and timely. To address the objectives, we are evaluating NSF's resolution actions for a statistically representative sample of audits issued during the period FY 2003 through FY 2007. We anticipate issuing two reports; one in the next semiannual period focused on resolution of OIG audits of grantees, and a second report in the following semiannual period addressing resolution of A-133 single audits.

Sufficiency of NSF's Cooperative Agreements for Large Facility Projects

The OIG is conducting a series of audits to determine whether the terms and conditions included in NSF's cooperative agreements for the management and operation of its large facilities projects are sufficient for NSF to provide stewardship over its programs and assets. Using a representative sample of six currently operating facilities, we are assessing the sufficiency of NSF's cooperative agreements to ensure: 1) accomplishment of programmatic goals; 2) financial and administrative account-ability; 3) protection of NSF assets; and 4) compliance with laws and regulations. We issued our first report on terms and conditions ensuring the accomplishment of programmatic goals in September 2008.

Labor Effort Reviews Continue at Universities

Since September 2005, the OIG has been conducting a series of audits to assess the adequacy of accounting and reporting processes for labor costs at NSF's top-funded universities. Approximately one-third of all NSF funds provided to universities are for salaries and wages, amounting to more than \$1.2 billion annually. Since The American Recovery and Reinvestment Act will significantly increase NSF's funding of grants over the next 18 months, NSF's payments for salaries and wages to universities are also likely to increase, thereby enhancing the timeliness and impact of the labor effort reviews already performed.

To date, we have completed seven audits and another nine are in progress. Five of those will be completed by the end of the calendar year. The objectives of these audits are to evaluate whether the universities' internal controls are adequate to properly manage, account for, and monitor salary and wage costs; and to determine whether these costs are allowable in accordance with federal cost principles. Once these 16 audits are completed, we plan to assess all audit findings and recommendations to determine their relevance to the broader population of NSF grants.

Investigations

Civil and Criminal Investigations

False Claims Act Case Against University Settled For \$7.6 Million

OIG participated in a multi-agency investigation of allegations against a Connecticut university, resulting in a civil settlement under which the university paid \$7.6 million to the federal government. The investigation and settlement involved \$3 billion in federal awards to the university from 2000 through 2006. We worked with the U.S. Attorney's office and agents and auditors from the FBI and OIGs for HHS, DOD, NASA, and DOE.

The investigation focused on allegations involving two types of mischarges to federal grants. Both types of mischarges arose as violations of the basic principle that recipients of federal grants are allowed to charge to each grant account only "allocable" costs, which are costs that relate to the objectives of that grant project. The first allegation involved *cost transfers* and the requirement that costs transferred to a federal grant account must be allocable to that particular grant project. It was alleged that some university PIs at times improperly transferred charges to a federal grant account to which those charges were not allocable. PIs allegedly were motivated to carry out these wrongful transfers when the federal grant was near its expiration date and they needed to spend down the remaining grant funds.

The second allegation involved *salary charges* and the requirement that charges to federal grant accounts for researcher time and effort must reflect actual time and effort spent on a particular grant project. It was alleged that some university PIs at times submitted time and effort reports, for summer salary paid from federal grants, that wrongfully charged 100 percent of their summer effort to federal grants when, in fact, the PIs expended significant effort on unrelated work or were actually on vacation. PIs allegedly were motivated to carry out these wrongful salary charges by the fact that they are not paid salary by the university during the summer.

We determined that there was credible evidence to support the allegations, and that these mischarges were able to occur at least partly because the university had weak procedures and internal controls in place. The university cooperated fully with the investigation, which included the production of half a million university records. In addition, at the outset of the investigation, the university undertook a prodigious project to revamp its processes to ensure prospective full compliance with all federal award requirements.

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During the relevant time period, HHS provided 82% of the award funds received by the university, and NSF provided 5.7%, making NSF's share of the \$7.6 million settlement \$438,821.

Awardee Staff Abuse Procurement Authority

In five cases, employees of awardee institutions abused positions of trust for personal gain. Such abuse violates federal as well as state and local criminal laws. Four of the cases involved using grant and university funds for personal purchases, and in the fifth, an awardee contracting officer engaged in a kickback scheme. The importance of preventing these types of abuses is magnified by their emphasis in the Recovery Act, and our office is currently developing several proactive approaches to address this issue.

Former Program Coordinator Sentenced To 10 Years In State Prison For Purchase Card Abuse: A former program coordinator under an NSF grant to a Georgia university was sentenced to 10 years in prison, to be followed by 10 years of probation, after she entered a guilty plea to a felony count in the Fulton County Superior Court. The subject had been indicted for theft by racketeering, involving the repeated personal use of a state-issued purchase card to make personal purchases.¹⁵ Her personal purchases included automobile insurance and repairs, groceries, and jewelry. In order to conceal her personal purchases, the program coordinator altered receipts and used the university accounting system to move her purchase card charges to several different accounts—including accounts for an NSF grant and private grants—so they would be difficult to track. The university subsequently returned all questionable charges to the NSF Grant.

Former Research Center Employee Sentenced for Kickback Scheme: A former research center employee pled guilty and was sentenced by a federal judge in the U.S. District Court for the District of Colorado for her orchestration of a kickback scheme. We initiated the investigation because the research organization receives substantial NSF funding. Our investigation disclosed the former employee used her position to steer printing contracts to a vendor in exchange for its agreement to pay a portion of the contract price back to her. As a result of the former employee's actions, the vendor received approximately \$270,000 in business in 2002 and 2003. When that vendor reported the payments made to her to the IRS, the former employee made an arrangement with a friend to set up a faux company to bid on printing jobs, using bids he received from actual printing companies. This pretend printing company paid her amounts she specified for each contract, receiving approximately \$450,500 in business from 2003 to 2005, without reporting the payments to the IRS.

The former employee was sentenced to 12 months home detention with electronic monitoring, three years probation, and ordered to pay a \$100 special assessment fee and restitution of \$80,746. We recommended that NSF debar the former employee for three years, and NSF's decision is pending.

¹⁵ March 2008 Semiannual Report, p.28.

University Employee Used Purchase Card for Personal Purchases

And Charged NSF Award: A Michigan university's office of internal audit determined that, over a 2-year period, an administrative assistant used her university purchase card to make personal purchases totaling \$24,405, of which \$11,765 was charged to an NSF award. The charges to the NSF award were listed by the employee as computer supplies, when in fact they were all personal items such as clothing, nail salon services, cable and cellphone service, and gasoline.

The university's investigation determined that the employee's supervisor failed to request or review her monthly purchase card statements as required by the university's policy. When interviewed by the university, the supervisor indicated that she was not aware she was supposed to review and approve the purchase card statements on a monthly basis. The supervisor's lack of oversight facilitated the employee's embezzlement scheme.

The university terminated the employee and returned \$11,765 to NSF. The university filed criminal charges with the local prosecutor's office and the employee pled guilty to 1 criminal count of embezzlement and was sentenced to 5 years probation and ordered to pay full restitution of \$24,405 to the university and \$7,691 to reimburse the university's office of internal audit's cost of investigation. We recommended that NSF debar the former employee for 3 years.

PI Misappropriated NSF Award Funds Totaling Over \$282,000: The director of a university medical research center, who served as a PI on an NSF award, made inappropriate purchases and improperly charged \$282,409 to the NSF award over a 2-year period. The PI purchased numerous personal items with NSF award funds, some of which he had shipped directly to his home. The personal purchases included two LCD computer monitors, a CD drive, a video card, cherry bookshelves, and books. In addition, he inappropriately charged for equipment and travel expenses allocable to non-NSF awards and for items which could not be properly charged to any award. The university also discovered that the PI had improperly charged \$678,000 to other federal awards.

The university returned \$282,409 to NSF for these inappropriate expenditures and terminated the PI from his position at the university. The U.S. Attorney's Office declined prosecution of this matter because the university had returned all of the funds to NSF for all the fraudulent charges. We recommended that NSF debar the PI for 3 years and prohibit him from serving as an NSF merit reviewer, advisor, or consultant. NSF's decision is pending.

Debarment Recommendation for Former Research Center Employee:

We recommended debarment of a former accountant at an NSF-funded research center after she was sentenced to federal prison for 32 months, 3 years supervised probation, 250 hours of community service, restitution of \$316,874, and ordered her to pay a special assessment fee of \$2,200. As discussed previously,¹⁶ the accountant used state-issued purchase cards

¹⁶ March 2008 Semiannual Report, pp.27-28.

to purchase over 3,800 personal items over five years. The sentencing followed a plea of guilty by the accountant in the U.S. District Court for the Northern District of Georgia to 17 counts of mail fraud and 5 counts of theft from an organization receiving federal funds. We recommended that NSF debar the former employee for five years, and NSF's decision is pending.

Impersonation of an NSF Official Results in Felony Conviction, Five Years Probation, and \$80,000 Fine

We previously described a case in which a subject impersonated an NSF official, to lure women to participate in a fake NSF research project in California.¹⁷ He pled guilty to one count of violation of 18 U.S.C. § 912, False Personation of an Officer or Employee of the United States, and was sentenced to: 5 years probation to include real-time monitoring of his computer use; 6 months home detention; and payment of fines and penalties totaling \$80,100. Following his conviction and sentencing, we recommended that NSF debar the subject for 5 years. NSF's decision is pending.

Two School Districts Fail To Handle Award Funds Properly

Two school districts returned almost \$400,000 in grant funds to NSF after accounting improprieties were uncovered by OIG investigations and audits. In previous OIG investigations into allegations of misuse of NSF funds by school districts, we found significant problems that resulted in settlements under the False Claims Act, repayment of misspent funds, and implementation of compliance plans. The problems we found were exacerbated by inadequate internal controls, lack of experience with the requirements for proper expenditure and oversight of federal award funds, and intense budgetary pressure. These problems are likely to increase as the current financial crisis leads to dramatically lower tax revenues for local governments required to operate with balanced budgets. The recent passage of the Recovery Act may result in a significant increase in NSF funding to such institutions, posing greater risks for fraud, waste, and abuse. With current budget shortfalls and reductions in base funding to school districts, an aggressive approach to preventing the misuse of the additional funds is critical to the programs' success. In an effort to identify the most efficient use of our resources, we are developing proactive approaches to identify risk factors to reduce as many as possible.

California School District Returns \$300,000 And Implements A Compliance Plan To Resolve False Claims And Other Wrongdoing: A public school district in California entered into a settlement agreement with the Department of Justice (DOJ) under which it agreed to repay \$300,000 to NSF. The district's lack of internal controls and misuse of government funds were initially discovered during an NSF OIG audit. The matter was referred to OI, and our investigation determined that the district had submitted approximately \$1.7 million in false claims, by charging awards for unallowable items, overcharging indirect costs, and failing to properly track participant support funds.

¹⁷ September 2008 Semiannual Report, p.28.

Because the district is facing financial difficulties and lay-offs, NSF agreed to accept the settlement along with a compliance plan designed to ensure that the district's internal controls and oversight of NSF funds are strengthened so that such fraud does not reoccur. This compliance plan requires the district to revise policies, train staff, and perform annual reviews to ensure continued compliance with all NSF requirements. They are also required to submit annual reports to OIG identifying any discrepancies and addressing the corrective actions they have implemented.

Alabama School District Fails to Account for Funds: A public school district returned \$97,867.56 to NSF after our investigation disclosed it had drawn down more money than it could account for. This investigation was opened pursuant to a proactive review of cooperative agreements. During the course of our investigation, the school district provided various versions of general ledgers for this award, unable to ascertain the exact amount it had spent. Finally, the chief financial officer certified to the exact dollar figure of supportable expenditures. This certified amount was \$97,867.56 less than what the school district had drawn down from NSF, so it returned the amount of funds it could not vouch for to NSF.

University Changes Award Management Practices in Wake of Misusing Participant Support Funds

We continue to receive allegations about the misuse of participant support funds, which are separately budgeted and cannot be spent for other purposes without advance written permission from NSF. We have investigated several such allegations as False Claims Act cases, resulting in the repayment of misspent funds, implementation of new policies, and imposition of compliance plans. In this semiannual period, a university returned \$83,994.51 and changed its award management practices, after our investigation revealed it misused participant support funds. This investigation was opened pursuant to a proactive review of participant support funds. The investigation revealed that on two NSF awards, the university reallocated participant support funds to other budget line items without the required prior written approval from NSF. In addition to returning the misused funds, the university's office of sponsored research now sends notices to PIs who have awards containing participant support funds, drawing their attention to the NSF requirement for prior written approval for rebudgeting. The university also created a mechanism in its financial system that flags any rebudgeting of participant support funds in a timely manner.

Small Businesses Abuse NSF Grants

One small business owner was debarred and another recommended for debarment after two unrelated investigations indicated that they had abused their NSF grants. Small businesses are generally considered to be at greater risk for such abuse because they often lack the staff and internal control systems to ensure compliance with federal award requirements. In addition, because the scientific programs at the 13 federal agencies that provide SBIR awards overlap, there is a significant risk that SBIR awardees can obtain duplicative funding for the same project from different agencies. Consequently, we continue to

receive and investigate allegations of wrongdoing involving SBIR awards, which often result in criminal convictions, False Claims Act settlements, repayment of misspent funds, and debarment of companies and individuals.

PI And Her Company Debarred For Misrepresentation To NSF: As reported in a previous Semiannual Report,¹⁸ a PI and small business owner wrongfully received a Phase II grant from the Small Business Innovation Research (SBIR) Program based on the PI's statements that her new company was a "spin-off" of the Phase I awardee (the first company). The PI was an officer and co-owner of the first company but was the sole owner of the new company. Our investigation found that the new company was not a "spin-off" of the first company because it had no affiliation with the first company or its other co-owners (who were unaware that the PI had negotiated the change of grantee with NSF). Based on our recommendations, NSF terminated the grant to the PI's new company, thereby making \$274,999 available for other purposes, and debarred the PI and her company for three years. The NSF SBIR program also implemented procedures to ensure this type of scheme is not repeated.

Former Professor's Involvement in Outside Companies Questioned: An OIG investigation into an allegation that a former professor at a Colorado university submitted a proposal to NSF that overlapped with an undisclosed proposal from an external non-profit research company founded by the subject, resulted in a recommendation of debarment. The university and our office both conducted investigations into improper award management and conflicts of interests. NSF had concurrent awards to the subject at the university and the first company, but more recently only to the company.

Our investigation revealed that the subject, consistently and over a period of many years, violated or disregarded various federal and NSF award administration requirements, violated university policies related to conflicts and outside compensation, and repeatedly misled both NSF and the university as to material facts about his outside companies and other matters relating to NSF awards. After many years of operation of the first company, the subject created a second, for-profit company that acted as a subcontractor to the first company. The subject was the sole owner and employee of the second company, which existed solely to receive grant funds from the first company and pay them to the subject as salary. The subject failed to notify NSF of the subcontracting relationship with the second company, and improperly failed to limit indirect charges for the subcontract costs to the first \$25,000 as required.

The university repeatedly asked the subject to disclose all outside financial interests, and he repeatedly withheld information about the funds he received from his companies; when the university learned the truth, it severely restricted his access to its research facilities. The professor then resigned from his tenured faculty position.

¹⁸ September 2007 Semiannual Report, p.26.

When we asked him to supply supporting documentation for the salary payments, the subject provided timesheets reflecting highly implausible work hours—for example, the subject claimed effort averaging nearly 14 hours a day for 98 continuous days between May and August 2002 (including weekends and holidays), and in other instances claimed to have devoted as much as 21 hours per day to the project. We recommended that NSF debar the subject for five years, and NSF's decision is pending.

University Self Audit Reveals Weaknesses in Award Management and Prompts Award Monitoring Changes

A university returned \$139,095 to NSF for one award and de-obligated \$22,250 to another NSF award following an investigation into their award management practices. Our investigation was prompted by the discovery that the university had agreed to remove one of its PIs from any responsibility over federal funds, as the result of an investigation by the Department of Energy (DOE) OIG and settlement agreement with the Department of Justice.

To determine if NSF awards had been affected, we selected an NSF award and requested documentation from the university. The university responded by auditing the award, and concluded that \$139,095 had not been properly disbursed, returning that amount to NSF. We then requested information about a second award, and the university's audit revealed \$22,250 that was questionable, which the university de-obligated from the open award.

Having confirmed that the university's internal control processes were questionable, we recommended that NSF designate this university as "high risk" until it can demonstrate that effective award monitoring and management practices have been implemented. NSF's decision is pending.

Administrative Investigations

In both this and the previous Semiannual period, we referred a number of employee misconduct cases to NSF, as well as management recommendations for improving NSF's workplace environment. These cases involved travel abuse by senior NSF managers, questionable personal relations between supervisory/subordinate senior managers, misuse of NSF resources for collecting, viewing, and disseminating pornography, as well as telephone resource and time and attendance abuse. In our view these cases raise concerns about NSF's professional workplace environment. Here we report NSF's findings and interim or final actions in each case, or whether it remains pending. We have expressed concern to NSF about the length of time it has taken to resolve these cases and the timeliness with which NSF has provided information to us about their resolution. To address these concerns, NSF and OIG are working to develop procedures to ensure that OIG receives information in a timely and effective manner.

We first report new matters that we have referred to NSF for action, and then report the actions NSF has taken, consistent with federal personnel rules, in previously-referred cases as well as its actions on recommendations to improve NSF's workplace.

New Matters Referred to NSF

Two Employees Conspire to Abuse NSF's Integrated Time and Attendance System

Our investigation determined that two NSF program assistants routinely signed each other in or out of NSF's Integrated Time and Attendance System (ITAS), resulting in both employees receiving salary for hours they did not work. Both employees had previously been warned by their supervisor to cease their abuse of ITAS.

We analyzed the employees' ITAS records for a six-month period, comparing them with ID badge usage reports, emails, and telephone records, to determine when they actually started and ended their work days. Our analysis determined that one of the employees had improperly received pay for more than sixty-three hours during that period, resulting in a loss to NSF of \$1,187, while the second employee improperly received pay for more than thirty-four hours resulting in a loss of \$576. Both admitted to abusing the ITAS by signing each other in or out.

We concluded that the employees engaged in fraudulent activity by knowingly abusing NSF's ITAS procedures, and recommended that NSF proceed with appropriate administrative action. NSF issued a formal Notice of Proposal to Remove each employee, and final actions are pending.

Employee Misuse of NSF Telephone Results in Reprimand

Our investigation determined that an employee excessively used her NSF office telephone, during official government time, for personal phone calls. We analyzed the employee's outgoing and incoming telephone records for a two-year period, focusing on the monetary and time costs associated with one friend's telephone number. Our analysis indicated the direct cost of calls made to the same telephone number totaled \$790, and the employee spent the equivalent of thirty-seven work-days on calls to and from that one telephone number. The employee thus earned approximately \$15,000 while talking on the telephone for personal purposes. Although the employee maintained the communication was generally work-related, our review of her emails revealed that she was also in frequent email contact with the person she was talking to on the telephone, often on personal matters unrelated to her NSF duties. Indeed, in one email, the friend wrote that she was "overwhelmed with the phone time you seem to require" and was getting "nothing done" with her own work.

We concluded the employee knowingly violated NSF's telephone use policies and the government's ethical standard requiring her to use official time to perform official duties. We further noted that, since the employee was the subject of an OIG investigation in 2003 regarding abuse of her NSF travel credit card, she should have been especially vigilant in ensuring her subsequent conduct was in compliance with NSF and federal requirements. We recommended that NSF take administrative actions appropriate and consistent with previous similar employee incidents. NSF issued a formal Official Reprimand to the employee, and she invoked her right to grieve that action under NSF's Collective Bargaining Agreement (CBA).

NSF Employees and Contractor Personnel Sent, Received, and Saved Emails Containing Pornography

During the course of investigating four employees for improper use of NSF computers for pornography, we identified an additional nineteen employees and contractor personnel who had also sent, received, and saved emails containing pornographic images, dating as far back as ten years. We found no evidence that these individuals violated federal law; accordingly, we forwarded our findings to NSF with a recommendation that it initiate investigations to determine the extent of these activities and take appropriate administrative actions.

Of the eight NSF employees, two are no longer with NSF. Three of the employees had worked at NSF for thirteen, eighteen, and twenty-one years, respectively, and after this reporting period, NSF issued a formal Notice of Proposal to Remove each of them. Final actions on those three employees are pending, as are any actions for the other three.

Eleven of the individuals were contractor employees. After being notified by NSF, the contractor provided oral counseling to three of its employees, provided a written warning to two, suspended four for five days each, and terminated four (two of whom it had previously suspended). The contractor reinforced its policies on appropriate use of IT resources by having all of its employees read and sign a new email policy memo which includes the requirement that they adhere to IT and email policies of governmental agencies where they are assigned.

Previously Referred Cases on Employees Whose Actions Adversely Affected NSF's Workplace Environment

- Two Senior Management Employees Used NSF-Funded Travel To Advance Their Personal Relationship:** Our investigation determined that a senior manager and his direct subordinate, also a senior manager, had an intimate personal relationship and took forty-seven joint trips over a two-and-a-half-year period, totaling \$144,152 of NSF funds. Three successive Assistant Directors (ADs) had questioned the supervisor and subordinate about the necessity for their extensive joint travel, and one of the ADs restricted joint travel because of concern that the repeated concurrent absences were having a negative effect on the work of their division. Despite these ADs' concerns, neither the supervisor nor his subordinate disclosed the nature of their relationship to any of the ADs—explaining to investigators that they believed that if the ADs had known about the relationship, trips would have been “squashed” or “cancelled.” The ADs told us that, if they had known about the intimate relationship, they may have made different decisions regarding the propriety and necessity of such joint travel.

The subordinate admitted that some of the NSF-funded trips included days added on solely to further the relationship, and she also admitted that it was unnecessary for both of them to go on many of the trips. The supervisor insisted that all trips and the duration of all trips were necessary. We were unable to determine the full amount of NSF travel funds expended to further their personal relationship. Based on the subordinate's admissions regarding three specific trips, and other evidence, we determined that at least \$1,500 of personal travel expenses were inappropriately paid by NSF.

The Department of Justice declined prosecution, so we referred this matter to NSF for appropriate administrative action regarding: failure to meet the standards of conduct expected of senior-level managers; failure to comply with NSF travel rules; lack of candor in failing to disclose the nature of their relationship when providing justifications for joint travel to the ADs; and the inappropriate use of NSF travel funds to further their personal relationship.

While our investigation was ongoing, we informed NSF of our preliminary findings. NSF announced publicly that the supervisor had accepted a new senior position in the AD's office, and withdrew its nomination of the supervisor for a prestigious award. NSF also significantly downgraded both the supervisor's and subordinate's performance appraisals and denied the supervisor a performance bonus. The subordinate has appealed her performance rating, and that appeal is pending. NSF also contracted for a review of potential sexual harassment in the relationship. With regard to the questionable travel costs, NSF informed OIG that it determined that there were reasonable scenarios that could account for the travel expenses, but recently informed us that it is continuing to evaluate the supervisor's use of federal funds for personal travel expenses.

In the course of this investigation, OIG encountered significant difficulties obtaining certain information from NSF because NSF viewed the information as attorney-client privileged. The protracted resolution of that issue resulted in a seven-month delay in our investigation. We were ultimately provided the information we requested, but only after NSF twice sought the opinion of the DOJ Office of Legal Counsel—which twice affirmed OIG's access to such information.

- **Senior Level Official Misused NSF Travel Funds:**¹⁹ In our September 2008 Semiannual Report we reported the results of our investigation of a senior NSF manager (the subject) for misusing travel funds and abuse of authority. We determined that the subject based his decisions to take NSF-funded travel, at least in part, on his desire to further personal relationships with women, one of whom was affiliated with NSF. He also exhibited a lack of candor when he provided false or misleading information to us in the course of our investigation. We further concluded that the senior official's actions resulted in a loss of \$11,283 to NSF in misused travel funds.

In response to our recommendations, NSF informed us that it had concluded that the majority of the NSF-funded travel at issue in the report was taken for legitimate reasons. NSF agreed, however, that some of the travel was personal in nature. In December 2008, NSF resolved this matter by orally reprimanding the subject, requiring him to return \$1,215.50 for personal travel expenses, prohibiting him from engaging in any future NSF-funded international travel; and requiring him to obtain approval from a superior for NSF-funded domestic travel. NSF did not foreshorten the duration of his tenure at NSF. The subject is scheduled to return to his university in late summer 2009.

¹⁹ September 2008 Semiannual Report, p.30.

- **An NSF employee who was overheard viewing pornographic videos was found to have used his NSF computer to visit a variety of pornographic websites on numerous occasions during official work hours.**²⁰ NSF issued a formal Proposal followed by a Decision suspending him for ten calendar days without pay.
- **An NSF employee continued to store sexually explicit image files on his NSF computer, despite being previously reprimanded for downloading inappropriate files and peer-to-peer software on his NSF computer.**²¹ The employee also sent emails from his NSF account that contained numerous sexually explicit image and video files to users outside NSF. Based on our findings and his recidivism, NSF issued a formal Proposal to Remove followed by a Decision terminating the employee. After being terminated, the employee invoked his right to grieve under NSF's CBA, and that process is pending.
- **An NSF employee stored and viewed numerous sexually explicit image files on his network drive.**²² NSF issued a formal Notice of Proposal to Suspend the employee for ten calendar days without pay, and final action is pending.

NSF Implements Additional Changes to Respond to OIG Recommendations To Enhance The Professional Workplace Environment

We previously described recommendations we made in July 2008 to NSF management, and some of management's responses, to address systemic issues raised by numerous cases that reflected poorly on the workplace environment at NSF.²³ In this semiannual period, we provided additional recommendations and NSF management implemented more—but not yet all—of the recommendations:

- We reviewed NSF's IT security awareness training and recommended changes to limit future abuses. NSF agreed to modify its online training consistent with our recommendations, but was subsequently required by OPM to convert its online training into an NSF-specific module that would work with OPM's governmentwide module. In February 2009 we evaluated the final version of the NSF module, in which NSF endeavored to implement our previous recommendations. We noted numerous opportunities for improvement, to emphasize the appropriate use of resources including providing direct hyperlinks to NSF policies and requiring each employee to certify acknowledgement of the policies and restrictions. In March 2009 NSF notified us that it had implemented all of our recommended changes.
- We recommended that NSF implement internet filtering software to prevent web access to inappropriate websites, such as those that include gambling or pornography; monitor attempts to access such sites; periodically search

²⁰ September 2008 Semiannual Report, p.32 (1st bullet).

²¹ September 2008 Semiannual Report, p.32 (2nd bullet).

²² September 2008 Semiannual Report, p.32 (3rd bullet).

²³ September 2008 Semiannual Report, pp.32-33.

NSF servers for saved pornographic image and video files; and notify OIG if it discovers material that violates federal law. NSF notified us in October 2008 that it had installed internet filtering software, but it has not implemented our other recommendations—however, in response to a Congressional inquiry, NSF recently stated that it is reviewing options that, if implemented, would be responsive to those recommendations.

- We recommended that NSF implement email filtering to remove pornography sent and received through NSF’s servers, and NSF is reviewing options to do so.²⁴ In response to a Congressional inquiry, NSF recently stated that it has acquired independent commercial expertise to assess current control environment, including filtering and file scanning, and will ensure that changes to established controls are communicated to us.
- We recommended that NSF ensure management oversight of personal use of computer systems, security systems, and employee training. In response, on February 20, 2009, NSF’s Director issued a memorandum to all Assistant Directors and Office Heads regarding “Appropriate Use of Government Resources,” reminding them that all employees must respect and adhere to the principles of ethical conduct required of federal employees. As required by that memorandum, each NSF office conducted an all-hands meeting by March 20, to advise employees of the importance of responsible use of government resources. While these actions represent a good start, additional actions will be necessary to comply with the intent of our recommendation.
- We recommended that NSF consider development of a formal policy on alternative means of employee discipline,²⁵ and train managers on its use. We are awaiting NSF’s response to this recommendation.
- In response to our recommendation, NSF recently issued two employee bulletins clarifying the “Definition of Official Travel” and the “Use of Leave While On Official Travel.” NSF has not yet completed its review of travel authorization process identified as lacking sufficient internal controls during recent investigations, but it indicated that “once this review has concluded, we will make recommendations with regard to how we might further improve our policies and our internal controls.”
- Finally, in the last Semiannual Report, we recommended that NSF increase the visibility of its Office of Equal Opportunity Programs (OEOP) including making operational all web links internally and externally to OEOP’s website, and developing guidelines and training to aid both managers and staff.²⁶ In January 2009 NSF published new policy statements on “Equal Opportunity and Diversity” and “Prevention of Harassment,” continued to address problems with internal and external OEOP web pages and staff contact pages, and took steps to make it easier for employees to locate OEOP assistance.

²⁴ Regarding this recommendation, an email exchange discovered by NSF in one of its investigations is noteworthy: two NSF employees (who were issued Notices of Proposal to Remove in connection with an OIG referral) discussed a news article about Congressional inquiries regarding NSF employees accessing pornography on websites, and one agreed with the other’s advice to be more cautious about the pornography they exchanged via email—after which the cautioned employee sent the other employee another pornographic email.

²⁵ See “Alternative Discipline: Creative Solutions for Agencies to Effectively Address Employee Misconduct,” MSPB 2008, available at mspb.gov.

²⁶ Semiannual Report to Congress September 2008, p.33

It also initiated a search for a permanent director of the OEOP, a position that has been held by an acting Director for over a year. In response to our recommendation to implement new guidelines and training to assist managers in addressing allegations or knowledge of intimate relationships between supervisory and subordinate staff, NSF stated that it would “evaluate the content of upcoming training offerings and ensure that the important issues highlighted in our list of recommendations were adequately addressed.”

Research Misconduct Investigations

Since its inception, an important element of this OIG’s overall program has been the pursuit of cases against individuals who commit research misconduct involving NSF proposals and awards. Science and scientific integrity have received heightened attention from both Congress and the White House. In addition, the recent enactment of the Recovery Act has established enhanced expectations regarding the accountability of public funds. It is therefore more critical than ever to ensure that all of those funds are expended on research and education projects that are carried out with the highest ethical standards, free of fabrication, falsification, and plagiarism. If an OIG investigation confirms a case of research misconduct, we refer it to NSF for adjudication.

Actions by NSF Management

Professor Copies from a Funded CAREER Proposal into His Own

A North Carolina faculty member’s CAREER proposal contained extensive plagiarism from numerous uncited sources, including CAREER proposals previously submitted to NSF by other researchers. We determined that the faculty member requested and received copies of multiple funded proposals from NSF via the Freedom of Information Act. He then copied extensively from several of the proposals he received into his own proposal. During the university investigation, the faculty member claimed that he was unaware of the need to cite the sources for the copied text, an explanation that the investigation committee found unconvincing. The university determined he committed research misconduct and terminated him.

In response to our recommendations, NSF: made a finding of research misconduct against the subject; proposed to debar him for three years, required three years of post-debarment certifications and assurances; prohibited him from serving as an NSF advisor, reviewer, or consultant for five years; and required him to complete an ethics training course on plagiarism. NSF’s final decision on the debarment is pending.

Former NSF Program Officer Blames His Plagiarism On Distraction

A former NSF program officer intentionally plagiarized several pages of material from a proposal submitted by another PI, which he had recommended for award during his tenure at NSF. When we asked him about the allegation, he stated that he had received permission from NSF’s Office of General Counsel to con-

tact the PIs of several proposals he had awarded for information he purported to use in a “best practices” book. Although he obtained the source material for his plagiarism directly from a PI he had funded, there was no indication that the former program officer obtained permission from this PI to use the material for his own proposal.

During the university’s investigation of the allegation, the former program officer attributed the copied text to time pressure, sloppy editing, and a computer malfunction that occurred while he was distracted by bird vocalizations at a remote field location. The university found the explanation “almost laughable if the charges were not so grave,” and made a finding of research misconduct; suspended the former program officer for a semester without pay; prohibited him from applying for internal or external funding for two years; and prohibited him from supervising graduate students for one year.

We concurred with the university’s findings, particularly given the large amount of text that the former program officer copied into his methodology, substituting only the name of the species he wanted to study. Based on our recommendations, NSF made a finding of research misconduct, issued a letter of reprimand, proposed to debar the former program officer for 18 months, required two years of certifications and assurances following the debarment, banned him from serving NSF in an advisory capacity, and required remedial training. NSF’s final decision on the debarment is pending.

PI Copies Substantially From an NSF Proposal Posted on His University’s Website

A PI from a Texas university submitted a proposal containing plagiarized text from several sources including significant text from a successful NSF CAREER proposal posted on the subject’s university grant office’s website. This source comprised nearly 30% of the subject’s project summary. We contacted the subject, who admitted having copied material in his proposal. He also informed us that another, pending NSF proposal contained many of the same citation problems, which we confirmed.

We referred the matter to the PI’s university. The university’s investigation committee concluded, based on a preponderance of the evidence, that the PI recklessly committed plagiarism, deemed a significant departure from accepted practices. The deciding official required the subject to: develop an educational document about plagiarism; not submit external grant proposals for one year; have a letter regarding the misconduct and completion of the educational document included in his personnel file; send an apology letter to the author of the source text from which the majority of material was plagiarized; and forgo a year’s merit salary.

We concurred with the university assessment. Based on our recommendations, NSF: made a finding of research misconduct against the subject; sent him a letter of reprimand; required certifications and assurances for two years; required certification of completion of the approved educational document about plagiarism; and required the subject complete a course on research ethics and plagiarism.

Assessing Allegations of Verbatim Plagiarism

NSF defines plagiarism as “the appropriation of another person’s ideas, processes, results or words without giving appropriate credit.”²⁷ In verbatim copying of text, we often look at “QCR” factors in assessing whether “appropriate credit” has been given. Those factors are: whether the copied text is quoted (Q); whether a citation (C) to the source appears in the text; and whether the citation directs the reader to a source listed in the document’s reference (R) bibliography.

- **Quotation (Q):** We look for authors to distinguish the work of others from their own by using quotation marks, block indentation, or some other customary and accepted manner of offsetting text.
- **Citation (C):** The citation is the key element that directs the reader to the author who wrote the source document. A citation can be indicated with parenthetical notation, footnotes, or endnotes, all with the purpose of linking the copied material to an entry in the reference bibliography.
- **Reference (R):** We look for the inclusion of the source document in the bibliography, with sufficient information to lead the reader to the original source.

The combination of all three factors—Quotation, Citation, and Reference: QCR—clearly and unequivocally provides appropriate credit to the original author(s) of the words, and effectively dispels an allegation of plagiarism.

Actions by NSF Management on Previously Reported Research Misconduct Reports of Investigation

In each of the following cases, the NSF Deputy Director made a finding of research misconduct and took administrative actions. Each of these cases was previously reported in our September 2008 Semiannual Report:

- **A graduate student subject committed verbatim plagiarism when he published a paper derived from his graduate research in an online journal and omitted any reference or acknowledgement to his U.S. advisor.** He also committed intellectual theft when he entered several gene sequences developed in his U.S. advisor’s laboratory into an online database, again omitting any reference to his U.S. advisor.²⁸ The subject gave credit to other individuals who had not participated in the research. Because the actions were so serious, and had a lasting, adverse effect on the U.S. advisor’s research and the relationship between collaborating scientists, we considered this to be one of the most egregious cases of research misconduct we have investigated. Consistent with our recommendations, NSF made a finding of research misconduct against the subject, sent him a letter of reprimand, and debarred him for 5 years.

²⁷ 45 C.F.R. § 689.1(a)(3).

²⁸ September 2008 Semiannual Report, pp.39-40.

- **A faculty member at a Michigan university unsuccessfully attempted to pass the blame for plagiarism in his NSF proposal to his students.**²⁹ Consistent with our recommendations, NSF: made a finding of research misconduct; required certification of completion of the remedial training imposed by the university; required certifications and assurances from the faculty member for 1 year; required the faculty member to provide for 1 year, with any proposal submitted, his plans for training his students and postdoctoral researchers in the responsible conduct of research; and barred him from serving NSF in an advisory capacity for 2 years.
- **A new faculty member at a Virginia institution plagiarized text into his first NSF proposal.**³⁰ The Deputy Director made a finding of research misconduct and imposed the following actions: issued a letter of reprimand; required the PI to provide certification and assurances for 2 years; and required completion of an ethics course.
- **A former professor in an Indiana university knowingly plagiarized from four sources into one proposal.**³¹ The PI subsequently left her academic position to work in the private sector. Based on our recommendations, NSF: made a finding of research misconduct against the subject and sent her a letter of reprimand; required certifications and assurances for one year; and required certification of attending an ethics class.
- **An associate professor at a Texas university plagiarized into seven separate NSF proposals, one of which was an awarded Small Grant for Exploratory Research (SGER) proposal.**³² Based on our recommendations, the Deputy Director: made a finding of research misconduct against the subject and sent him a letter of reprimand; debarred the subject for 2 years; required certifications and assurances for 2 years; barred the subject from serving as an NSF reviewer for 3 years; and required certification of attending an ethics class. The subject has appealed and the Director's decision is pending.
- **A senior faculty member at a New Jersey institution plagiarized text into his NSF proposal from a proposal that he received from NSF to review.**³³ Based on our recommendations, NSF: issued a letter of reprimand containing a finding of research misconduct; required completion of an ethics course; required certifications and assurances for one year; and barred the faculty member from serving NSF in an advisory capacity for two years.
- **A research scientist plagiarized in six SBIR proposals that she submitted over five years.**³⁴ Based on our recommendations, NSF: made a finding of research misconduct; required completion of an ethics course, required certifications and assurances for four years; and barred the scientist from serving NSF in an advisory capacity for four years.

²⁹ September 2008 Semiannual Report, p.42.

³⁰ September 2008 Semiannual Report, p.41.

³¹ September 2008 Semiannual Report, p.41.

³² September 2008 Semiannual Report, p.40.

³³ September 2008 Semiannual Report, p.42.

³⁴ September 2008 Semiannual Report, p.40.

- **A faculty member at a Pennsylvania university plagiarized text from multiple source documents into two NSF proposals, in addition to text plagiarized in three other proposals submitted to other agencies and funding organizations.**³⁵ Based on our recommendations, NSF: issued a letter of reprimand notifying the faculty member of the finding of research misconduct; required certification and assurances for 2 years; and required completion of an ethics course.

Research Misconduct Reports of Investigation Forwarded to NSF Management

PI Breaches Confidentiality, Then Alters Documents and Fabricates Story to Mask Plagiarism

An OIG investigation concluded that a PI from a northeastern institution plagiarized text, figures, and citations from multiple sources into four NSF proposals. One of the NSF proposals appeared to contain a substantial amount of copied material taken from an earlier NSF proposal (the source proposal) submitted by other researchers. During our inquiry, the PI asserted that colleagues at a private company gave her a copy of the source proposal for her to use as her own. Further, the PI provided copies of emails documenting the timing and receipt of this information, but did not provide any of the colleagues' names. We referred the investigation to the PI's institution.

The institution's investigation committee decided to focus solely on one proposal, about 80 percent of which appeared to have been copied from the source proposal. The PI provided the committee with the name of the part-time student who also worked at the private company, explaining that the student provided her with the copy of the source proposal. The student told the committee it was untrue, but the PI had asked him to state he had received the source proposal and provided it to her.

As a part of its investigation, the committee requested our assistance in determining whether the PI had merit-reviewed a DOE proposal. We learned from DOE that the PI reviewed another proposal very similar to the source proposal and submitted by the same authors. The committee concluded that the subject copied the text from the DOE proposal she reviewed and not the source proposal we originally identified. The committee, with the help of forensic investigators, also determined that the PI had altered dates on electronic documents she provided to OIG and the committee to support her story of receiving the source proposal at a later time from the student. The institution determined that the PI: breached the confidentiality of the DOE merit review process; and deliberately attempted to conceal the plagiarism in her proposal by fabricating a story, which she ultimately admitted doing. The institution determined that PI committed research misconduct, and accepted her resignation in lieu of termination.

³⁵ September 2008 Semiannual Report, p.41.

We concurred with the institution's conclusion concerning the plagiarism in the proposal. However, after further investigation, we determined that the PI copied text, figures, and citations into four NSF proposals, which represented a significant departure from accepted practices of the relevant research community. Further, with the first proposal, the PI's breach of the confidentiality of the merit review process, fabricated story (including electronic alteration of files), and involvement of an innocent part-time student in her fabricated story, made her actions extremely egregious. We recommended that NSF: inform the PI that NSF has made a finding of research misconduct; debar her from receiving federal funds for a period of 5 years; and bar her from serving as a merit reviewer for 5 years. NSF's adjudication on this matter is pending.

PI Inadequately Cites Text in a Third of His Proposal

An OIG investigation into an allegation that a PI and Co-PI from an institution in California submitted a proposal containing plagiarism, confirmed that the PI had plagiarized text but exonerated the Co-PI. Our analysis found extensive text, two figures, and three figure captions copied from numerous sources. We noted that embedded citations to many of the sources generally did precede or follow the allegedly copied text, but that the text was copied verbatim without quotation marks or other demarcation. Our investigation determined that the PI was solely responsible for the copied text and that fully one third of the proposal was copied from the multiple sources.

We concluded, by a preponderance of the evidence, that the PI knowingly committed plagiarism in one proposal, representing a significant departure from accepted practices. We recommended that NSF: make a finding of research misconduct against the PI; send the PI a letter of reprimand; require certifications and assurances from the PI for a period of three years; bar the subject from serving NSF as a reviewer, advisor, or consultant for one year; and require certification of attending an ethics class within one year. NSF's adjudication is pending.

PI Takes Responsibility for Copied Material

An Indiana university found that one of its PIs used plagiarized material in an NSF proposal. We received the allegation that a PI and two Co-PIs from the university submitted a proposal containing plagiarism. We contacted the PI and Co-PI, and each named the PI as solely responsible for the annotated text. In his response, the PI also identified a second document from which he copied text. OIG referred the matter to the PI's university.

The university's investigation committee concluded, based on a preponderance of the evidence, that the PI knowingly committed plagiarism, which constituted a significant departure from accepted practices. They also determined that there was a pattern of plagiarism, in that the subject's dissertation and a journal article also contained plagiarism. The university required the subject to: submit his work for 3 years to university officials for plagiarism review; complete a Responsible Conduct of Research course; notify the Research Integrity Officer at the university at which he wrote his dissertation and the journal editor of the article that both contained plagiarism; and be aware that any future misconduct will result in dismissal from his current employment.

We concurred with the university assessment, and recommended that NSF: make a finding of research misconduct; send the subject a letter of reprimand; require certifications and assurances from the subject for 2 years; and require certification of completion of a course in research ethics within a year. NSF's adjudication is pending.

Former Professor Plagiarizes in Three Proposals

We received an allegation that a former assistant professor at a Maryland university submitted an NSF proposal containing plagiarism. During our inquiry, we identified several source documents from which over two pages of text were allegedly copied into three NSF proposals. During the investigation, the subject argued that we should exclude three of the sources from our review, and we agreed. However we concluded that the subject knowingly plagiarized approximately two pages of text into three NSF proposals, deemed a significant departure from accepted practice.

We recommended that NSF: make a finding of research misconduct against the subject; send him a letter of reprimand; require certifications and assurances for 1 year; bar him from serving NSF as a reviewer, advisor, or consultant for 1 year; and require certification of attending an ethics class. NSF's adjudication is pending.

PI Includes No Citations in Two NSF Proposals

An OIG investigation concluded that a PI copied seven pages of text into two NSF proposals. It was initially alleged that the subject from a Pennsylvania institution copied approximately three pages of material from numerous sources into his two NSF proposals. When we contacted him, the subject did not contest he had copied text without adequate citation. However, he claimed he had attended an NSF workshop in which he was told he could copy material from documents and without citation, a ridiculous claim for which he offered no evidence. After reviewing the subject's response, we re-examined the proposals and found nine pages of additional copied text. We referred the matter to the subject's institution.

The university concluded, based on a preponderance of the evidence, that the subject knowingly and recklessly committed plagiarism, which constituted a significant departure from accepted practices. The university terminated the subject's employment. We initiated an investigation to verify whether some copied material was attributable to the subject's collaboration with another researcher. We determined the subject had co-authored some of the questioned text, which we then excluded from further review. We concluded the subject copied approximately seven pages of text into two NSF proposals.

We recommended that NSF: make a finding of research misconduct against the subject; send the subject a letter of reprimand; require certifications and assurances from the subject for three years; and require certification of attending an ethics class within one year. This matter is pending adjudication.

Other Significant Cases

University Adequately Addresses NSF Interests in Resolving Research Misconduct Allegations

We found that a university's resolution in a plagiarism case involving several professors and a graduate student adequately protected NSF and the federal government. Allegations arose against a graduate student and several NSF-funded professors, when the graduate student moved from one NSF-funded research group to another and continued to work on a similar research project. The allegations concerned the use of the first professor's ideas by the student and the professors in the second group. At about the same time, the first professor allegedly plagiarized from the student when he published a paper as a sole author in which he reused text he had previously published with the student as a co-author.

The university found no misconduct with respect to the student and the professors in the second group. However, the university found that the first professor had committed plagiarism by using the majority of the coauthored text in the subsequent publication because he omitted the student as an author. The university issued a letter of reprimand to the professor, imposed remedial training in ethics, required the professor to have senior faculty supervision of his mentorship of students, and required attestations to his department chair that the work he publishes does not contain plagiarized material.

We found that the university investigation was accurate, complete, and supported by the evidence and university policies. Although the professor's actions raised serious concerns for our office, the university's actions were adequate to protect NSF and the federal government. We did express our concerns to the professor regarding his questionable research practices, including the apparent duplicate publication.

Action by a Professor Averted Research Misconduct Finding

A Massachusetts university took a novel approach to resolve a research misconduct allegation against one of its faculty members. It was alleged that conclusions in two papers, written by the subject, were not substantiated by the data. Specifically, the subject was alleged to have not done enough to account for instrument artifacts that could account for the claimed results, and therefore the results were intentionally misreported.

The university's investigation committee found two significant problems with the conclusions reported in the papers. The papers failed to disclose the extent to which instrument artifacts can resemble valid research results. The papers' conclusions were not supported by sufficient statistical proof that the claimed results were not in fact the result of instrument artifacts. The committee asked a consultant in statistical methodologies to review the subject's approach, data, and conclusions.

The consultant concluded the subject's design and analysis of his experiment were not well developed from a statistical point of view, and thus, the subject's results should be considered preliminary and exploratory in nature. The committee determined that the consultant's findings raised doubts about the subject's conclusions.

The committee concluded that a preponderance of evidence showed there was insufficient statistical basis for the subject's conclusions in his papers, but the subject did not commit research misconduct because he did not recklessly or knowingly publish flawed results. It expressed concern that the two papers remain in the literature without any indication of the problems with the findings. It recommended that the subject develop a rigorous methodology for statistical reexamination of the data, consistent with the recommendations of the consultant. If the reexamination demonstrates one or both of the papers need supplementation, correction, or retraction, the subject should act accordingly. The committee concluded that if the subject fails to do so, he would at that point have committed an act of research misconduct under NSF policy, because he would then know his results are flawed, and therefore he would then have a culpable level of intent.

The subject completed the reexamination requested by the adjudicator and is preparing a new paper for publication; he also prepared a report for the adjudicator. His research was reviewed by his department chair, his departmental advisor, and the vice president, who concluded the subject's new analysis satisfied the committee's and consultant's criteria. The adjudicator accepted the subject's manuscript and report as satisfactory and closed the case.

Management Implication Reports

NSF's Transit Subsidy Program

OIG initiated an investigative review of NSF's transit subsidy program to check for the type of abuses cited by the Government Accountability Office in a 2007 report. The GAO investigation found that federal employees were fraudulently selling their transit subsidy benefits, and identified potential systemic weaknesses that allow employees to abuse the program. Although NSF was not a focus of the report, the agency was aware of it and quickly implemented several improvements it suggested. For example, the NSF transit program attempted to verify recipient travel costs by requesting employees to state the address they commute from, but could not reach agreement with the employee union bargaining unit regarding the issue.

We checked for potential overstatement of commuting costs by selecting subsidy recipients who lived in Arlington County (where NSF is located) and claimed more than their actual commuting cost over an 18-month period, based on our estimates. Our review identified five individuals who claimed and received an excessive amount of subsidies. These recipients used the extra amount for personal transportation costs and for local trips on official business. Despite receiving information about the proper use of the benefits when they applied to the program, the recipients said they did not know they were not supposed to use their transit benefits for official travel, nor did they know they could adjust the amount they put on their SmarTrip card at the Metro station to take less than

the claimed benefit when circumstances warranted it (e.g., vacations). Several recipients said they did not know their commuting cost, and asked the program staff to calculate it for them.

We recommended several changes to help NSF improve its management and prevent potential abuse of the program. We also recommended that NSF take appropriate action against the individuals found to have received excessive subsidies, and require them to recertify to the correct amount of their commute and reduce their benefit accordingly.

Improving NSF's Management of Reviewer's Conflicts of Interests

As noted previously,³⁶ OIG recommended that NSF take several steps to improve the information both the agency and reviewers exchange regarding potential conflicts of interests (COIs). However, NSF informed us that it would not implement any of our recommended changes for improving the way it handles its reviewer COIs because it does not perceive any systemic deficiencies affecting the current review process. Accordingly, we provided an expanded explanation of the reasons for our recommendations, which focused on ensuring that reviewers were apprised of situations that could be construed as COIs and had ample opportunity to disclose potential conflicts to NSF. Since *ad hoc* reviewers³⁷ do not receive information about COIs and sign the form that panel reviewers do, we believe it would be helpful to provide them this same information and ask them to check a box affirmatively indicating they do not have a COI that would prevent them from performing their review duties objectively. Improving this information and disclosure process can enhance NSF's merit review system by ensuring its objectivity.

We also noted that our recommendations are consistent with NIH's longtime practices. NSF and NIH both ask the research community to review tens of thousands of basic research proposals each year, and probably rely on a substantially overlapping pool of reviewers. Thus, it is likely that there are many NSF reviewers already familiar with COI processes embodied in the recommendations we are making. NSF and NIH have the same interest in ensuring their reviewers understand what constitutes a potential COI, and the same interest in having those COIs disclosed to the program officials. NIH already does all of the things we recommend that NSF do, and these are tried and proven practices that we believe would serve NSF well in avoiding potential COI problems with reviewers.

In our view, NSF's commitment to the training and education of not only its staff, but also the support it provides to the community it serves, should not be premised on whether there is a legal requirement to do so. There is currently a dearth of COI training resources available for reviewers, apart from the standard COI briefing provided only to panel reviewers, which NSF can, and we believe should, rectify.

NSF is reevaluating our recommendations and informed us it has sought the advice of the Office of Government Ethics (OGE) regarding our recommended revisions to the certification form the panelists receive that contains guidance about COIs. To facilitate OGE's assessment, we provided OGE with our review and supplemental information.

³⁶ September 2008 Semiannual Report, p.34.

³⁷ "Ad hoc" reviewers provide their reviews solely electronically.

Meaningful Laboratory Records

Our investigations into allegations of fabrication and falsification invariably involve an examination of laboratory records, including notebooks, instrument logs, and instrumental measurements stored in electronic form. The quality and completeness of these records in university laboratories varies widely from lab to lab. In one recent case, a post-doctoral researcher kept voluminous laboratory records at one institution, and sparse and incomplete records at his next institution, reflecting the different emphases of the faculty member in charge. Even in cases in which an individual's laboratory notebook appears adequate, linkages to instrument records and electronic data stored on various computer systems are often incomplete.

Within investigations into allegations of research misconduct, we typically assess the usefulness of laboratory notebooks and records by considering the following:

Completeness: The record should describe all the activities of the researcher, not just the "successful" ones.

Linkage: A written laboratory notebook should reference electronic records by name and location in detail sufficient to locate the electronic records.

Review: A regular (weekly or monthly) documented review of laboratory notebooks by a supervisor or a faculty advisor can help ensure the quality of laboratory records.

Accuracy: Records should be a contemporaneous chronology of all pertinent laboratory activity and results, whether successful or not, and be sufficient to support the reconstruction of activities by another competent researcher.

Safekeeping: All laboratory records should be maintained in a secure manner and backed up with copies stored in an alternate location.

In several recent cases, the ownership of data and laboratory records has been questioned. For research sponsored by NSF, ownership resides with the grantee, which is usually a university. Copies of records may be made for faculty and students that leave the university, but the grantee is required to maintain the original records for three years after the close of the award.

Statistical Data

Audit Data

Audit Reports Issued with Recommendations for Better Use of Funds

		Dollar Value
A.	For which no management decision has been made by the commencement of the reporting period	\$1,945,240
B.	Recommendations that were issued during the reporting period	\$1,153,497
C.	Adjustments related to prior recommendations	\$0
Subtotal of A+B+C		\$3,098,737
D.	For which a management decision was made during the reporting period	\$45,240
	i) Dollar value of management decisions that were consistent with OIG recommendations	\$45,240
	ii) Dollar value of recommendations that were not agreed to by management	\$0
E.	For which no management decision had been made by the end of the reporting period	\$3,053,497
For which no management decision was made within 6 months of issuance		\$1,900,000

HIGHLIGHTS

Audit Data	53
Investigations Data	63

Audit Reports Issued with Questioned Costs

		Number of Reports	Questioned Costs	Unsupported Costs
A.	For which no management decision has been made by the commencement of the reporting period	21	\$67,736,891	\$6,577,363
B.	That were issued during the reporting period	21	\$2,819,627	\$1,089,846
C.	Adjustment related to prior recommendations	1	\$64,730 ³⁸	
Subtotal of A+B+C			\$70,621,248	\$7,667,209
D.	For which a management decision was made during the reporting period	16	\$11,600,153	\$6,576,171
	i) dollar value of disallowed costs	N/A	\$4,368,298	N/A
	ii) dollar value of costs not disallowed	N/A	\$7,231,855	N/A
E.	For which no management decision had been made by the end of the reporting period	26	\$59,021,095	\$1,091,038
	For which no management decision was made within 6 months of issuance	5	\$56,201,468	\$1,192

³⁸ This adjustment reflects cost sharing that was not previously included in questioned costs.

Audit Reports Involving Cost-Sharing Shortfalls

		Number of Reports	Cost-Sharing Promised	At Risk of Cost Sharing Shortfall (Ongoing Project)	Actual Cost Sharing Shortfalls (Completed Project)
A.	Reports with monetary findings for which no management decision has been made by the beginning of the reporting period:	3	\$2,694,452	\$12,971	\$1,053,536
B.	Reports with monetary findings that were issued during the reporting period:	3	\$1,353,360	\$0	\$834,556
C.	Adjustments related to prior recommendations	0	\$0	\$0	\$0
Total of reports with cost sharing findings (A+B+C)			\$4,047,812	\$12,971	\$1,888,092
D.	For which a management decision was made during the reporting period:	3	\$2,694,452	\$12,971	\$1,053,536
	1. Dollar value of cost-sharing shortfall that grantee agreed to provide	3	\$2,694,452	\$12,971	\$1,053,536
	2. Dollar value of cost-sharing shortfall that management waived	3	\$2,694,452	\$0	\$0
E.	Reports with monetary findings for which no management decision has been made by the end of the reporting period	3	\$1,353,360	\$0	\$834,556

Status of Recommendations that Involve Internal NSF Management Operations

Open Recommendations (as of 3/31/2009)	
Recommendations Open at the Beginning of the Reporting Period	69
New Recommendations Made During Reporting Period	28
Total Recommendations to be Addressed	97
Management Resolution of Recommendations ³⁹	
Awaiting Resolution	28
Resolved Consistent With OIG Recommendations	69
Management Decision That No Action is Required	0
Final Action on OIG Recommendations	
Final Action Completed	45
Recommendations Open at End of Period	52

Aging of Open Recommendations⁴⁰

Awaiting Management Resolution:	
0 through 6 months	24
7 through 12 months	0
More than 12 months	4
Awaiting Final Action After Resolution	
0 through 6 months	5
7 through 12 months	0
More than 12 months	19

³⁹ "Management Resolution" occurs when the OIG and NSF management agree on the corrective action plan that will be implemented in response to the audit recommendations.

⁴⁰ "Final Action" occurs when management has completed all actions it agreed to in the corrective action plan.

List of Reports

NSF and CPA Performed Reviews					
Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds	Cost Sharing At-Risk
09-1-001	Education Development Center	\$3,346	\$3,346	\$0	\$0
09-1-002	American Institute of Physics	\$77,658	\$0	\$0	\$0
09-1-003	BIOS Financial Capability Bermuda Institute of Oceanographic Science	\$0	\$0	\$0	\$0
09-1-004	Abt Associates 2004 Incurred Costs	\$0	\$0	\$0	\$0
09-1-005	Exploratorium	\$340,204	\$316,608	\$0	\$0
09-1-006	University of Arizona Effort Reporting System	\$16,548	\$0	\$0	\$0
09-1-007	CRDF U.S. Civilian Research & Development Foundation	\$198,926	\$0	\$1,153,497	\$0
09-2-001	NSF's FY 2008 Financial Statement Audit	\$0	\$0	\$0	\$0
09-2-002	NSF FY2008 Special Purpose Financial Statement	\$0	\$0	\$0	\$0
09-2-003	NSF's FY 2008 Management Letter	\$0	\$0	\$0	\$0
09-2-004	Supplemental Funding	\$0	\$0	\$0	\$0
09-3-001	IQCR of #08-1-004 University of California - Berkeley	\$0	\$0	\$0	\$0
09-3-002	IQCR of #08-1-008 BIOS Incurred Costs	\$0	\$0	\$0	\$0
	Total:	\$636,718	\$319,954	\$1,153,497	\$0

NSF-Cognizant Reports

Report Number	Subject	Questioned Costs	Unsupported Costs	Cost Sharing At-Risk
09-4-001	6-07 California Academy of Sciences	\$91,611	\$52,749	\$0
09-4-002	6-07 Computing Research Association - DC	\$0	\$0	\$0
09-4-003	6-06 Children's Museum, Inc. - TX	\$0	\$0	\$0
09-4-004	6-07 Children's Museum of Houston, Inc. - TX	\$0	\$0	\$0
09-4-005	12-07 American Anthropological Association - VA	\$0	\$0	\$0
09-4-006	9-07 Northern California Public Broadcasting, Inc. - CA	\$0	\$0	\$0
09-4-007	12-06 American Mathematical Society - RI	\$0	\$0	\$0
09-4-008	12-06 Mathematical Association of America - DC	\$0	\$0	\$0
09-4-009	6-07 Stark County Educational Service Center - OH	\$0	\$0	\$0
09-4-010	6-06 San Diego Society of Natural History - CA	\$0	\$0	\$0
09-4-011	6-06 School District of Riverview Gardens - MO	\$0	\$0	\$0
09-4-012	6-07 School District of Riverview Gardens - MO	\$0	\$0	\$0
09-4-013	12-06 Bay Area Video Coalition, Inc. - CA	\$0	\$0	\$0
09-4-014	9-06 ARCUS Arctic Research Consortium of the U.S. - AK	\$0	\$0	\$0
09-4-015	12-06 Astrophysical Research Consortium - WA	\$0	\$0	\$0
09-4-016	9-07 National Ecological Observatory Network, Inc. - DC	\$0	\$0	\$0
09-4-017	12-07 UCAID University Corporation for Advanced Internet Development - OH	\$0	\$0	\$0
09-4-018	12-07 CRDF U.S. Civilian Research and Development Foundation - VA	\$0	\$0	\$0
09-4-019	9-07 California Institute of Technology - CA	\$0	\$0	\$0
09-4-020	12-06 AAAS American Association for the Advancement of Science - DC	\$0	\$0	\$0
09-4-021	9-07 WIYN Consortium, Inc. - AZ	\$0	\$0	\$0
09-4-022	6-07 Kalispell School District - MT	\$0	\$0	\$0
09-4-023	12-06 Consortium for Mathematics and Its Applications, Inc. - MA	\$0	\$0	\$0
09-4-024	12-07 Consortium for Mathematics and Its Applications, Inc. - MA	\$0	\$0	\$0
09-4-025	6-06 Delta Research and Educational Foundation - DC	\$0	\$0	\$0
09-4-026	12-07 Horizon Research, Inc. - NC	\$0	\$0	\$0
09-4-027	12-06 Santa Fe Institute - NM	\$0	\$0	\$0
09-4-028	2-06 Astronomical Society of the Pacific - CA	\$0	\$0	\$0
09-4-029	6-06 Bigelow Laboratory for Ocean Sciences - ME	\$0	\$0	\$0
09-4-030	6-07 Michigan State University - MI	\$0	\$0	\$0
09-4-031	6-06 Liberty Science Center - NJ	\$0	\$0	\$0

NSF-Cognizant Reports (cont'd)

09-4-032	9-07 TMT Observatory Corporation - CA	\$0	\$0	\$0
09-4-033	12-06 Field Museum of Natural History - IL	\$0	\$0	\$0
09-4-034	12-06 UNAVCO, Inc. - CO	\$0	\$0	\$0
09-4-035	12-07 UNAVCO, Inc. - CO	\$0	\$0	\$0
09-4-036	9-06 Fort Worth Museum of Science and History - TX	\$0	\$0	\$0
09-4-037	12-06 Donald Danforth Plant Science Center - MO	\$0	\$0	\$0
09-4-038	9-06 The Concord Consortium - MA	\$0	\$0	\$0
09-4-039	6-07 REVISED Computing Research Association - DC	\$0	\$0	\$0
09-4-040	6-06 QEMN Quality Education for Minorities Network - DC	\$0	\$0	\$0
09-4-041	9-06 Museum of Science and Industry, Inc. - FL	\$0	\$0	\$0
09-4-042	12-06 Triangle Coalition for Science and Technology - VA	\$0	\$0	\$0
09-4-043	12-07 Triangle Coalition for Science and Technology - VA	\$0	\$0	\$0
09-4-044	12-07 Barrow Arctic Science Consortium - AK	\$0	\$0	\$0
09-4-045	12-06 American Statistical Association - VA	\$0	\$0	\$0
09-4-046	12-07 Rocky Mountain Biological Laboratory - CO	\$0	\$0	\$0
09-4-047	12-07 American Geophysical Union - DC	\$0	\$0	\$0
09-4-048	7-06 Hugh Moore Historical Park & Museums, Inc. - PA	\$0	\$0	\$0
09-4-049	12-07 Denver Museum of Nature and Science - CO	\$0	\$0	\$0
09-4-050	9-06 Girls Incorporated - NY	\$0	\$0	\$0
09-4-051	12-07 Woods Hole Oceanographic Institution- MA	\$0	\$0	\$0
09-4-052	6-07 California Science Center Foundation - CA	\$0	\$0	\$0
09-4-053	12-07 CUAHSI Consortium of University for the Advancement of Hydrologic Science - DC	\$0	\$0	\$0
09-4-054	12-06 Drilling Observation and Sampling of the Earth's Continental Crust - UT	\$0	\$0	\$0
09-4-055	12-06 Intercultural Center for Research in Education - MA	\$0	\$0	\$0
09-4-056	6-06 Institute for Advanced Study - NJ	\$0	\$0	\$0
09-4-057	12-07 Shodor Education Foundation, Inc. - NC	\$0	\$0	\$0
09-4-058	12-07 American Institute of Mathematics-CA	\$0	\$0	\$0
09-4-059	9-06 Montshire Museum of Science, Inc. - VT	\$0	\$0	\$0
09-4-060	8-06 San Jose Children's Discovery Museum - CA	\$0	\$0	\$0
09-4-061	8-06 Merck Institute for Science and Education - NJ	\$0	\$0	\$0
09-4-062	7-06 MSRI Mathematical Sciences Research Institute - CA	\$0	\$0	\$0
09-4-063	9-06 North Carolina Museum of Life and Sciences, Inc. - NC	\$0	\$0	\$0
09-4-064	9-06 Teachers Development Group - OR	\$0	\$0	\$0

NSF-Cognizant Reports (cont'd)

09-4-065	6-06 Jackson Public School District - MS	\$0	\$0	\$0
09-4-066	6-06 The Vermont Institutes - VT	\$0	\$0	\$0
09-4-067	9-07 NEES Consortium, Inc. - CA	\$0	\$0	\$0
09-4-068	6-06 Maryland Academy of Sciences	\$0	\$0	\$0
09-4-069	6-07 Maryland Academy of Sciences	\$0	\$0	\$0
09-4-070	6-06 New York Botanical Garden	\$0	\$0	\$0
09-4-071	6-07 New York Botanical Garden	\$0	\$0	\$0
09-4-072	12-06 Stroud Water Research Center, Inc. - PA	\$0	\$0	\$0
09-4-073	9-06 LSST, Inc. - AZ	\$0	\$0	\$0
09-4-074	12-06 Optoelectronics Industry Development Association, Inc. - DC	\$0	\$0	\$0
09-4-075	12-07 American Association of Physics Teachers - MD	\$0	\$0	\$0
09-4-076	12-07 American Institute of Biological Sciences, Inc. - DC	\$0	\$0	\$0
09-4-077	12-07 Donald Danforth Plant Science Center - MO	\$0	\$0	\$0
09-4-078	6-05 Atlanta Independent School System - GA	\$0	\$0	\$0
09-4-079	12-06 Boyce Thompson Institute for Plant Research - NY	\$0	\$0	\$0
09-4-080	6-06 Educational Broadcasting Corporation - NY	\$0	\$0	\$0
09-4-081	12-07 Academy of Natural Sciences of Philadelphia - PA	\$0	\$0	\$0
09-4-082	12-07 Anchorage Museum Association - AK	\$0	\$0	\$0
09-4-084	09-07 ARCUS Arctic Research Consortium of the U. S. - AK	\$0	\$0	\$0
09-4-085	12-07 Archbold Expeditions - FL	\$0	\$0	\$0
09-4-086	8-07 Association of American Geographers - DC	\$0	\$0	\$0
09-4-087	6-05 Family Communications Inc. - PA	\$0	\$0	\$0
09-4-088	12-07 AACCC American Association of Community Colleges - DC	\$12,734	\$0	\$0
09-4-089	6-07 Allegheny Intermediate Unit - PA	\$0	\$0	\$0
09-4-090	12-07 AAAS American Association for the Advancement of Science - DC	\$0	\$0	\$0
09-4-091	6-06 NISS National Institute of Statistical Sciences - NC	\$0	\$0	\$0
09-4-092	12-06 Franklin Institute - PA	\$0	\$0	\$0
09-4-093	12-06 Monterey Bay Aquarium Research Institute - CA	\$0	\$0	\$0
09-4-094	12-06 Four Corners School of Outdoor Education - UT	\$0	\$0	\$0
09-4-095	6-06 Illinois State Museum Society - IL	\$0	\$0	\$0
09-4-096	12-07 American Chemical Society - DC	\$0	\$0	\$0
09-4-097	12-07 American Physical Society - MD	\$0	\$0	\$0
09-4-098	6-07 Children's museum of Pittsburgh - PA	\$0	\$0	\$0
09-4-099	6-07 College Entrance Examination Board - NY	\$0	\$0	\$0

NSF-Cognizant Reports (cont'd)

09-4-100	12-07 Stroud Water Research Center, Inc. - PA	\$0	\$0	\$0
09-4-101	9-07 Chabot Space & Science Center – CA	\$0	\$0	\$0
09-4-102	9-07 Fermi Research Alliance, LLC – IL	\$0	\$0	\$0
09-4-103	12-07 Field Museum of Natural History – IL	\$0	\$0	\$0
09-4-104	5-07 Exploratorium – CA	\$0	\$0	\$0
09-4-105	9-07 Consortium for Ocean Leadership – DC	\$0	\$0	\$0
09-4-107	9-07 IMI IODP Management International, Inc. - DC	\$0	\$0	\$0
09-4-108	12-07 J. Craig Venter Institute – MD	\$0	\$0	\$0
09-4-109	5-07 JOI Joint Oceanographic Institutions – DC	\$0	\$0	\$0
09-4-110	6-07 Foundation for Blood Research - ME	\$0	\$0	\$0
	Total:	\$104,345	\$52,749	\$0

Other Federal Audits

Report Number	Subject	Questioned Costs	Unsupported Costs	Cost Sharing At-Risk
09-5-002	6-07 Rowan University - NJ	\$4,012	\$4,012	\$0
09-5-008	6-07 Fisk University - TN	\$2,500	\$0	\$0
09-5-022	6-07 State of Tennessee	\$1,018	\$0	\$0
09-5-026	6-07 Maricopa County Community College - AZ	\$60,971	\$40,096	\$0
09-5-038	6-07 Hamilton College - NY	\$4,102	\$4,102	\$0
09-5-044	6-07 State of Mississippi Institutions of High	\$44,149	\$0	\$0
09-5-048	8-07 College of the Mainland - TX	\$110,629	\$0	\$0
09-5-049	6-07 Georgetown University - DC	\$321,315	\$0	\$0
09-5-050	6-07 Wildlife Trust, Inc. & Wildlife Preservation Trust International, Inc. - NY	\$115,053	\$0	\$0
09-5-052	6-07 Howard University - DC	\$1,125,491	\$662,940	\$0
09-5-054	9 -6 Alabama A&M University - AL	\$279,689	\$0	\$0
09-5-058	9-07 Smithsonian Institution - DC	\$5,780	\$5,780	\$0
09-5-091	9-07 Blackfeet Community College - MT	\$3,660	\$0	\$0
09-5-096	9-06 Fort Berthold Community College - ND	\$213	\$213	\$0
	Total:	\$2,078,564	\$717,143	\$0

Audit Reports With Outstanding Management Decisions

This section identifies audit reports involving questioned costs, funds put to better use, and cost sharing at risk where management had not made a final decision on the corrective action necessary for report resolution within six months of the report's issue date. At the end of the reporting period there were six reports remaining that met this condition. The status of recommendations that involve internal NSF management is described on page 56.

Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds
05-1-005	RPSC Costs Claimed FY2000 to 2002	\$33,425,115	\$0	\$0
06-2-011	University Indirects	\$0	\$0	\$1,900,000
06-1-023	RPSC 2003/2204 Raytheon Polar Services Company	\$22,112,521	\$0	\$0
07-1-003	Triumph Tech, Inc.	\$80,740	\$1,192	\$0
07-1-015	Supplemental schedule to #06-1-023 RPSC	\$560,376	\$0	\$0
07-1-019	Abt Associates	\$22,716	\$0	\$0
	Total:	\$56,201,468	\$1,192	\$1,900,000

**INVESTIGATIONS DATA
(October 1, 2008 – March 31, 2009)**

Civil/Criminal Investigative Activities

Referrals to Prosecutors	7
Criminal Convictions/Pleas	5
Civil Settlements	3
Indictments/Information	0
Investigative Recoveries	\$1,294,136

Administrative Investigative Activities

Referrals to NSF Management for Action	24
Research Misconduct Findings	11
Debarments	6
Administrative Actions	101
Certifications and Assurances Received ⁴¹	10

Investigative Case Statistics

	<u>Preliminary</u>	<u>Civil/Criminal</u>	<u>Administrative</u>
Active at Beginning of Period ⁴²	45	80	60
Opened	92	26	45
Closed	83	29	33
Active at End of Period	54	76	72

⁴¹ NSF accompanies some actions with a certification and/or assurance requirement. For example, for a specified period, the subject may be required to confidentially submit to OIG a personal certification and/or institutional assurance that any newly submitted NSF proposal does not contain anything that violates NSF regulations.

⁴² Last period we reported 79 C/C cases. During this period, one C/C case was reopened.

Freedom of Information Act and Privacy Act Requests

Our office responds to requests for information contained in our files under the Freedom of Information Act (“FOIA,” 5 U.S.C. section 552) and the Privacy Act (5 U.S.C. section 552a). During this reporting period:

- Requests Received 32
- Requests Processed 31
- Appeals Received 2
- Appeals Upheld 2

Response time ranged between 7 days and 18 days, with the median around 14 days and the average around 14 days.

Performance Report

Goal 1

Promote NSF Efficiency and Effectiveness

1. Identify and implement approaches to improve product quality and timeliness.

- Initiate a process and develop a time-phased plan to convert to electronic audit workpapers.
- Develop a policy for risk-based audit supervisory review and report signature and transmittal, and associated audit report content and presentation templates for: 1) internal performance reports performed by OIG staff and 2) performance grant audit reports performed by OIG or contractors.
- Identify new policies or revisions to existing policies necessary to comply with the 2007 edition of Government Auditing Standards and develop a timetable for issuing/revising these policies.
- Develop supplemental procedures for the policy on audit report issuance and distribution.
- Conduct a training session for contractors to provide guidance and examples of quality audit reports.
- Identify key procurement milestone dates for all contract audits and initiate a process to track procurement milestones for all contract audits.
- Complete most OIG audits within one year of conducting the planning conference.
- If budget constraints allow, start all jobs designated “must do” within audit planning year.
- Identify all jobs over one-year old as of April 1 and reduce backlog by 100%.
- Identify and monitor quarterly workload targets for each audit team.
- Discuss performance-based contracting with the Contracting Officer; present options on how to include performance-based language in our contracts.
- Complete evaluations of contractor-performed audits issued for March 31 and September 30 semiannual reporting periods.
- Review Office of Investigations (OI) operations for compliance with ECIE standards of performance.
- Review Investigations Manual and forms.
- Prepare a draft administrative manual for OI administrative functions.

Audits. In an ongoing effort to improve audit timeliness and quality, OIG developed plans and target dates to convert to electronic workpapers; issued five new or revised audit policies and procedures; provided guidance to contract auditors on quality audit reports; initiated a process to track the contract-audit procurement process electronically; developed options for the inclusion of performance-based language in audit contracts; completed evaluations of contractor-performed audits; and monitored milestone dates to improve the management of the audit process.

To advance its goal of converting from paper to electronic workpapers, a technology that has been adopted by most other OIGs and professional audit organizations, the Office developed an electronic workpaper procurement timeline. However, due to budget constraints, office-wide conversion to electronic workpapers has been postponed. The selected software package requires an initial investment of over \$100,000, annual fees of 20 percent of the base cost, and additional expenditures to train staff.

The Office issued or revised five audit policies during the last year in order to comply with the 2007 edition of *Government Auditing Standards*, foster the quality and timeliness of audit reports, and standardize audit procedures. Specifically, OIG revised its policies on *Independence*, developed supplemental procedures for the policy on *Report Issuance and Distribution*, and issued new policies on *Using the Work of Specialists*; *Assessing the Reliability of Computer-Processed Data*; and *Risk-Based Audit Supervisory Review and Draft and Final Report Transmittals*. The last of these policies also included examples of report content and presentation templates for audits performed by OIG staff. In addition, the Office developed target dates for revising other policies and procedures, such as those on *Quality Control* and *Workpaper Standards*, to comply with the most current version of the *Government Auditing Standards*.

To help independent public accounting (IPA) firms that we contract with perform quality audits in a timely fashion, we held a training session for their employees in December 2008. OIG auditors analyzed the format and presentation of a well-written report and discussed how to convey audit findings effectively. The Office hopes that by clarifying its expectations for quality audit reports and providing well-written examples, it will be able to streamline the contract auditing process and help contract auditors produce high-quality reports within agreed-upon timeframes.

OIG also expanded its audit tracking system to better track contracted audits from the solicitation to issuance stages. The new tracking parameters will capture the time spent in the preparation of solicitations, evaluation of the bids, and finalization of the contracts. It will enable the Office to monitor the total time required to fulfill the administrative tasks involved in contracting and inform our efforts to streamline the process. In addition, to improve the quality and timeliness of audits performed by contractors, the Office considered options for the inclusion of performance-based language in its contracts. Performance-based criteria could provide incentives for improved audit work and/or penalties if the work is late or of lesser quality. OIG already collects information on the performance of contractors by asking audit staff to evaluate the quality of the

product or service, economy, timeliness of performance and business relations. Such feedback on contractor performance is an essential part of quality assurance and can be an important consideration during future selection processes.

During the performance period, the Office established four performance goals to reduce the time from inception to issuance of audits and promote timeliness: 1) the completion of each audit within one year of the planning conference, 2) 100 percent reduction of the backlog of audits over one-year old as of April 1, 2008, 3) starting all top-priority jobs within the audit planning year to the extent resources allow, and 4) continued tracking of milestone dates from the beginning of an audit to its issuance.

The Office successfully completed 75 percent of the audits performed by contract auditors within one year, a significant increase from last year, when the one-year completion rate was 56 percent. However, due to staffing constraints and unexpected assignments that took priority over planned audit work, only one of the three (33 percent) audits performed by OIG staff were completed within one year, a decrease of 24 percentage points from last year. At the end of the period, new responsibilities associated with the enactment of the American Recovery and Reinvestment Act of 2009 further contributed to the decrease in the one-year completion rate for OIG-performed audits.

OIG succeeded in eliminating the backlog of audits that were more than one year old as of April 1, 2008, and started top-priority jobs within the audit planning year, to the extent the budget allowed. Finally, to encourage timely completion of audits the Office continued to track projected and actual dates for milestones such as planning, field-work verification and report-writing conferences and for the issuance of draft and final reports. This monitoring enabled timely corrective action when interim milestones were not met and thus facilitated the completion of audits within one year of their start dates.

Investigations. The Office implemented substantive improvements in investigations product quality, timeliness, and value to NSF during this performance period:

- We reviewed our Investigations Manual and made necessary changes to include new policies and “best practices” identified by staff.
- After careful analysis of internal processes and procedures, we compiled a list of administrative duties within a newly developed Office of Investigations (OI) Administrative Practices Manual.
- After undergoing a successful *external* peer review last year, we began preparing to conduct an *internal* peer review in this performance year. Our internal peer review will follow the same the standards of performance and guidelines used by the Inspector General community for external reviews.
- We have made several improvements to the reports generated by the OIG Knowledge Management System to track the available data and statistics.
- We reviewed our intake process to ensure cases are assigned appropriately when opened.

Despite a significant increase in the number and gravity of Reports of Investigations and Management Implication Reports during this past year, the internal management controls we have established continue to operate effectively in ensuring the quality of all reports and work products.

2. Strengthen our focus by refining approaches for selecting work and setting priorities.

- Develop and execute the annual audit plan.
- Document decision for final selection of audits included in the audit plan.
- Based on funding by Directorate and Division, develop a risk analysis of key NSF programs and operations for use in audit planning.
- Review KMS report directory to identify improvements in the types of investigative reports available.
- Review preliminary (P-file) initiation process and ensure that administrative (A) and investigative (I) cases are opened as appropriate.

Audits. OIG issued its annual Audit Plan on September 30, 2008, and has been executing audits in the Plan during FY 2009. For reference in future audit planning, the Office also documented the decision process used to select the audits in the Plan. To improve our risk-based process for selecting audits, we developed a new methodology this year to identify risk in NSF programs and operations for each of NSF's directorates and divisions. Specifically, we analyzed risk factors for an NSF-wide program budgeted in FY 2008 at more than \$55 million. Future audits of NSF programs, like audits of grantees, will be based on risk. This approach to NSF awards, programs and operations helps the Office use its limited resources to perform audits that are likely to have the greatest impact.

Investigations. OIG has undertaken an initiative to make greater use of technology to improve its approaches to selecting work and setting priorities. To advance our efforts to convert to a completely electronic system, we implemented new procedures encouraging internal and external electronic transmission of documents. This made our processing of cases more cost-effective and greatly facilitated data analysis.

We also developed two new action reports within the Knowledge Management System to help ensure consistent recommendations regarding case actions. As part of these efforts, and in preparation for peer review, we once again reviewed our case processing systems to ensure that we are effectively and efficiently evaluating allegations and developing appropriate resolutions.

Goal 2

Safeguard the Integrity of NSF Programs and Resources

1. Detect and address improper, inappropriate, or illegal activities.

- Implement a Civil/Criminal unit-wide approach to proactively detecting areas of high risk for fraud.

- Develop a proactive review process to explore issues associated with administrative investigations.
- Ensure effective compliance plan oversight.
- Utilize technology to facilitate the work of investigators.

Over the past year, OIG launched a number of proactive initiatives aimed at detecting fraud and uncovering instances of internal misconduct. We conducted a series of brainstorming sessions that resulted in proactive plans from each of the investigative sections (administrative, civil/criminal, and legal). These sessions and the plans resulted in the initiation of numerous successful proactive reviews. To enhance our proactive efforts, we recently assigned one member of the investigation management team to focus on the process and ensure that (1) they are a priority for staff and managers, (2) reviews that are productive are expanded while ones that are less fruitful are curtailed, and (3) promising ideas for new projects are ready to start as soon as other reviews are completed.

These efforts contributed to a significant increase in the number of internal misconduct investigations performed. Through these investigations, OIG was able to identify a number of systemic issues and recommend that the agency update its policies and procedures to correct the problems. Several of these investigations involved senior agency staff and resulted in a number of disciplinary actions being taken by NSF. In addition, our cases grew in size and complexity, as reflected by the number of multi-agency investigations we participated in as well as the number of civil settlements and criminal prosecutions during this period. We also managed an increasing number of substantive research misconduct investigations, resulting in 17 Reports of Investigation being sent forward for agency adjudication, identification of questionable research practices, and in-depth discussions with some institutions about the need to improve ethics training for their researchers.

Our office successfully monitored six compliance plans covering institutions that were subjects of OIG investigations. As part of the resolution of their respective investigations, each institution agreed to meet stringent requirements to remedy the systemic weaknesses responsible for the problems identified in our investigations. In every case, all milestones were met. Reports required by the plan were received, reviewed, and coordinated with NSF. In one case, extensive OIG effort was expended bringing an institution into compliance with its corrective plan. During this performance year, two investigators completed training on the development and monitoring of compliance plans and became Certified Compliance and Ethics Professionals. This training provided a comprehensive understanding of the regulations and legal issues related to an effective compliance process and bolstered our efforts to promote organizational integrity through the enforcement of effective compliance programs.

Over this reporting period, we also procured forensic computer equipment and software to assist in expanding our abilities to search electronic data and secure electronic evidence.

2. Strengthen OIG proactive activities.

- Identify and maintain focus on high-risk awardees.
- Conduct brainstorming sessions to generate new proactive ideas and to refine current risk areas.

As indicated above, the Office continued to enhance its proactive activities, conducting a series of brainstorming sessions that resulted in five proactive reviews. We developed a unit-by-unit proactive review plan based upon the risk areas identified by our investigative staff. These proactive reviews proved effective not only in opening new investigations, but also in identifying systemic issues that were raised to NSF in our Management Implication Reports.

3. Refine preliminary financial investigative steps.

- Improve initial techniques for financial analysis in potential fraud cases.
- Leverage existing audit and investigative information.

OIG improved its financial analysis in fraud investigations by increasing the number of staff trained on financial matters. Two staff members completed the Certified Fraud Examiner (CFE) program, raising the percentage of our investigators who have attained CFE certification to nearly 20 percent.

We identified a contract firm capable of providing the financial analysis needed for specific types of investigations, and we developed a uniform process for initiating financial analysis. This contract expedited our work by facilitating data analysis, providing on-the-job training for our staff, and allowing us to stretch staff resources to address our expanding case loads.

We further refined our method for analyzing the financial data we receive from grantees to allow us to conduct a faster assessment of cost categories, identify potential fraud indicators, and enable more-detailed analysis. We also increased the number of cases in which we reviewed prior A-133 audit reports, and investigators coordinated with auditors in NSF and other OIGs to leverage available audit and investigative information and identify potentially high-risk programs and grant recipients.

Goal 3

Utilize OIG Resources Effectively and Efficiently

1. Strengthen and utilize the professional expertise and talents of all OIG staff.

- Analyze the previous year's biennial employee survey results and develop and implement corrective actions for any problems identified.
- Make system enhancements to KMS, including the development of a fund-control tracking system for contract audits.
- Conduct KMS and other IT training, as necessary.
- Update KMS user manuals.
- Provide prompt, effective responses to requests for IT support.
- Identify and replace outdated computer systems.

- Test the automated calling system for continuity of operations planning and testing.
- Conduct at least one new employee orientation.
- Develop and implement annual audit training plan.
- Conduct exit surveys with all exiting staff to obtain feedback on any issues and areas for office improvement.
- Conduct all-hands Office of Audit meeting once a quarter. Audit staff will be invited to suggest agenda topics to their respective SAMs or DAIGA.
- Conduct meetings of the Audit Employee Survey Advisory Group and the AIGA on a quarterly or other mutually agreed upon schedule to discuss issues of continuing concern among audit staff.
- Complete training identified in Individual Development Plans.
- Maintain and verify investigative training records for compliance with investigative core competency requirements.
- Provide presentations to OI staff on material learned and effectiveness of courses following any training attended.
- Participate in core competency training for investigators to increase staff knowledge.
- Revise OI position descriptions to ensure consistency and provide a career ladder for advancement.

A committee of OIG staff analyzed the last biennial employee survey, which was conducted in February 2008, and found that our employees were generally satisfied with their jobs. While no responses to questions fell below a neutral rating, the panel recommended that the Associate IGs who headed the Audit and Investigations offices conduct their own analyses of the responses from their respective staffs and that the IG request staff suggestions for ways to increase the opportunity for them to use their skills. The AIGs and IG followed the recommendations and held subsequent meetings to discuss the issues with OIG staff members.

We continued to make numerous enhancements to our Knowledge Management System to improve tracking and reporting on costs associated with the American Recovery and Reinvestment Act of 2009, contract monitoring, training, allegation intake, performance reporting, internal workflows and communication, analysis of research misconduct findings, financial recoveries, and coordination with NSF management. IT support received an above average rating of 4.13 (out of a maximum possible score of 5) on the employee survey. The IT specialists supported audit and investigative activities through updates on technology issues at monthly staff meetings, focused training sessions, queries of NSF databases, and a variety of customer support/troubleshooting activities. They also replaced 30 aging desktop computers, drafted an IT security policy, tested our emergency notification system, supported video-conferencing sessions with our Denver office, and provided technical assistance in the planning and performance of our annual review of NSF's IT security program.

Audit. To comply with the *Government Auditing Standards* requirement that all government auditors complete 80 hours of continuing professional education (CPE) every two years, all auditors identified in their Individual Development Plans courses that would both fulfill their CPE requirements and enhance their

professional expertise. The Office of Audit tracked training hours for each audit staff member and approved a training plan that ensured that all auditors complied with the CPE standards.

The effort to continually upgrade operations not only improves work methods, but also raises morale, fosters loyalty, and strengthens the professional expertise of OIG staff. During the year, the Office of Audit continued to obtain feedback on employee satisfaction by means of (1) quarterly all-Audit meetings to improve communications among Audit teams and discuss issues of common interest; (2) quarterly meetings of the Employee Survey Advisory Group and the AIGA to follow up on recommendations in the 2008 Employee Survey and discuss issues of continuing concern; and (3) exit interviews with departing Audit staff to obtain ideas on improving working conditions.

Investigations. All staff in the Office of Investigations prepared Individual Development Plans (IDP) that identified training opportunities deemed appropriate for professional development and career enhancement. We maintained and verified investigative training records for compliance with our core competency requirements. Our review showed that all training certificates were entered into our training system electronic records, although only 80 percent of IDP-proposed training was able to be accomplished. During this performance period, all position descriptions were reviewed and revised to ensure they are consistent and that they provide an adequate career ladder for employee advancement. The Office provided internal training at five Investigations staff meetings. While our outreach and training goals continue to remain priorities, the lack of additional resources in the last few budget cycles has adversely affected these essential functions. We have limited our outreach to only larger organizations and/or groups in the greater D.C. area. It has also become more difficult to meet the staff's training and development goals, and not all staff members achieved their IDP goals.

2. Improve communication and collaboration within OIG.

- Ensure information exchange and referrals among the Audit, Investigation, and Administrative units.
- Share information about audit, investigative, and administrative activities at all-staff meetings.
- Maintain Investigations/Audit/Administrative teams and monitor their performance of OIG/NSF liaison duties.
- Conduct periodic meetings between audit and investigation managers to discuss cross-cutting issues, mutual concerns, and cooperative efforts.
- Use office-wide committees for completion of various OIG projects and activities.
- Conduct periodic informational meetings for administrative staff from each OIG unit.
- Ensure staff participation in the development and implementation of the annual OIG Performance Plan.
- Increase OI staff's utilization of electronic review and mailing for correspondence.
- Hold brown bag lunch discussions of topics affecting OIG.
- Improve effectiveness of OI meetings.
- Address issues for OI highlighted in employee survey.

Information sharing among the Audits, Investigations, and Administrative units that comprise OIG continued to be more open and effective than in years past. All units have contributed to improved communication and collaboration within OIG through participation in formal and informal meetings, activities, and training events. Audit and Investigations staff met three times this year to discuss issues of mutual concern and to monitor matters that have been referred between the offices. Referrals were assessed during these meetings, and action was subsequently taken on any deemed to be significant. Audit staff initiated five referrals, while Investigations staff, who were focused principally on internal investigations, saw a decline in referrals for Audit to two matters.

OIG staff worked together to provide in-house training and accomplish office-wide initiatives. During the performance period, employees made presentations at seven of the ten all-hands meetings to share information about their work. Investigators provided briefings to ensure broad understanding within OIG of how cases are handled and the results obtained in recent investigations. Auditors presented findings of audits or reviews of various NSF programs and awards, such as an urban school district that had mishandled NSF funds, the inadequate dissemination of the results of NSF research, and the financial issues concerning post-retirement benefits at NSF's Federally Funded Research and Development Centers. Each staff meeting also contained updates from our IT support professionals, reports on our liaison activities with NSF directorates, and updates on current legislative and IG community activities. OIG staff members were also active on office-wide committees to plan activities such as the annual office retreat and to develop the annual OIG Performance Plan.

Investigations conducted five meetings for training purposes, with informative presentations targeted to OIG staff, as well as brown-bag lunches for staff to discuss issues relevant to the entire office. The scheduling and formatting of the bi-weekly Investigations meetings were modified to be responsive to the employee survey results, allow managers to discuss more specific subjects with their staff, and provide the staff an additional forum to present ideas and concerns.

We significantly increased the use of electronic routing and approval processes for reviewing documents such as request letters, closure notifications and Reports of Investigation prior to transmitting them. This has resulted in streamlining the process and reducing the resources used to copy and prepare for mailing.

There was strong participation in the OIG liaison program, in which staff members from different OIG units are paired to establish an ongoing relationship with their designated NSF directorate, division, or office. OIG staff initiated approximately 30 liaison program visits to NSF's science directorates and business/administrative offices during the performance year.

3. Ensure effective external communications and consultation with our stakeholders.

- Produce timely external reports on OIG results and issues.
- Provide testimony and other requested information to congressional committees.

- Provide briefings to the NSB, Congress, OMB, NSF, and others regarding OIG plans, priorities, and progress.
- Prepare timely OIG budget requests.
- Issue two OIG Newsletters by email.
- Review statistical section of Semiannual Report for usefulness and to ensure it includes all statutory reporting requirements.
- Update NSF leadership regularly on OIG activities and concerns.
- Participate in committees and task forces, as appropriate.
- Collaborate with federal and international agencies to advance common audit, investigative, and management goals.
- Provide leadership and active participation in the IG community.
- Track and coordinate GAO audits of NSF programs.
- Conduct active outreach to NSF and the research community, and particularly to professional associations of higher learning.
- Track usage of OIG website.
- Increase capability of OIG website to accommodate the use of multimedia informational tools such as videos, podcasts, and links to relevant news stories.
- Post audit reports to OIG website within required timeframes after issuance.
- Ensure that FOIA/PA requests are processed in a timely manner.
- Submit article(s) for publication in appropriate journals.
- Provide briefings to NSF staff during initial orientation.

During the past year, OIG kept stakeholders apprised of its work by submitting all reports for which it was responsible, including two Semiannual Reports to Congress, NSF's Financial Statement Audit Report, the FY 2008 Federal Information Security Management Act (FISMA) evaluation, and a Management Challenges Letter. These reports were issued within the timelines prescribed either by law or by specified due dates. OIG also submitted a FY 2010 budget request in accordance with OMB and Congressional requirements. OIG leadership met with Congressional staff on various NSF issues and responded to Congressional requests for information on matters such as NSF's follow-up on an OIG audit, the agency's handling of investigative matters, unimplemented audit recommendations, and dissemination of the results of NSF-funded research. The Interim IG testified to Congress in March 2009 about OIG's oversight of NSF's Recovery Act funds, and we responded to two inquiries from our Congressional oversight committees requesting additional information on the subject.

OIG staff and/or the independent auditor of NSF's financial statements gave briefings at each meeting of the Audit and Oversight Committee of the National Science Board to keep it apprised of progress on the audit and on corrective actions taken by NSF in response to previous financial audits. OIG staff also presented the office's proposed budget submission, annual audit plan, Recovery Act planning, and reports on significant investigations and audits. The AIG for Investigations provided briefings to the Committee in closed session throughout this performance period. One electronic newsletter was provided to NSF stakeholders this year as OIG's Recovery Act preparations forced postponement of the second newsletter. However, the IG and Deputy IG continued to conduct

briefings for the NSF Director and Deputy Director at regular intervals to apprise them of OIG's activities and discuss opportunities to improve agency operations.

OIG staff continued to be actively involved in NSF committees. For example, auditors and investigators participated in five working groups that NSF's Office of Budget, Finance and Award Management established to address new requirements in the American Recovery and Reinvestment Act of 2009, and the Deputy IG sat on the NSF ARRA Steering Committee. Audit staff members were also active in the Audit Coordinating Committee, which included key NSF staff and met to resolve coordination issues associated with the financial statement audit. The Senior Policy and Operations Advisor served as an executive secretary to the Audit and Oversight Committee of the National Science Board. The Deputy IG participated in quarterly Division Director retreats and served as the OIG liaison for the agency's Office of Equal Opportunity and Office of Legislation and Public Affairs. OIG staff also gave briefings at every NSF Program Managers Seminar and NSF New Employee Orientation. Finally, we conducted numerous liaison events to directorates and divisions of NSF. Audit and Investigations staff partnered for more than thirty outreach visits to NSF's science directorates and business/administrative offices during the performance year.

Audit staff worked closely with Office of Management and Budget (OMB) on a variety of projects, including addressing the results of the 2007 *Report on Annual Single Audit Sampling Project*, which found that the independent auditors who performed Single (A-133) Audits needed better guidance and training. NSF OIG auditors were active in one of the OMB workgroups established to improve the quality of the A-133 audits. In addition, audit staff provided comments on drafts of revisions to the following OMB Circulars: A-50 (Audit Follow-up), A-136 (Financial Reporting Requirements), A-127 (Financial Management Systems), and A-133 *Compliance Supplement* (which provides guidance on how to perform A-133 audits). Auditors also met with OMB to review how it determined agencies' scorecard ratings on elements of the President's Management Agenda.

As scientific research continued to involve an increasing number of international collaborations, it became ever more important that those who fund and perform research understand the rules, regulations, best practices, and research ethics that exist in other countries. The NSF OIG has been at the forefront of this effort. This year an auditor attended a workshop sponsored by the European Science Foundation, which discussed methods for ensuring quality in ex-post evaluation studies and for developing common indicators for evaluating public research organizations. Audit staff also met with representatives from the National Science Foundation of Ireland and the Research Councils of the United Kingdom to discuss oversight of grantees' uses of public funds. Auditors plan to visit the Research Councils during the upcoming performance year to learn first-hand about the Funding Assistance Program, which determines whether public research funds are properly safeguarded and used only for the purposes Parliament intended. Investigators presented to the international community on four occasions, addressing groups of individuals involved in the funding and oversight of research in different countries around the world. Senior OIG staff

also gave briefings to visiting delegations of government officials and scientists from various countries. These activities represented a concerted effort by OIG to increase international understanding of accountability in the funding and conduct of research and to share information and practices with the organizations charged with managing research enterprises.

OIG also continued to participate actively in committees, projects, and events in the IG community. The IG served as the Vice-Chair of the Executive Council of Integrity and Efficiency through December. Investigative staff provided leadership within the IG community on the National Procurement Fraud Task Force, its Grant Fraud Subcommittee, the Inspector General Academy, and the Federal Law Enforcement Training Center. As a member of the Grant Fraud Subcommittee, we participated in the development and issuance of a white paper identifying the importance of monitoring federal grants in the same context as federal contracts. Several of our best practices were identified in this report. The NSF IG led the Misconduct in Research Working Group of the Council of Inspectors General on Integrity and Efficiency, with support from our research misconduct staff. The Group met twice in 2008 to address a significant research misconduct case at another agency, efforts by the Global Science Forum to coordinate international responses to research misconduct, and review case studies. Both meetings were well attended, drawing OIG officials from a number of agencies. By sharing practices and policies, as well as creating posters, hand-outs, fact sheets, and slide shows, we expanded our outreach to other federal OIGs overseeing grant programs.

Auditors continued to provide leadership in interagency groups that foster common audit goals. For example, the AIG for Audit was the co-chair of the Financial Statement Committee of the Federal Audit Executive Council. Senior Audit staff participated routinely in the Council's Committee on Human Resources activities, such as developing an IG community presentation to students about careers in auditing. Auditors also regularly attended meetings of the Financial Statement Audit Network, a workgroup of the Council, to keep apprised of proposed accounting standards and requirements for federal financial statement audits. Audit staff provided frequent guidance to other OIGs on how to develop programs to review Single Annual Audits (A-133 audits) and on issues such as wage garnishment and developing position descriptions for hiring audit staff. In total, Audit staff participated in about 40 formal meetings and conversations with other OIGs during the past year.

Our staff published two articles in professional journals. An investigator and an auditor co-authored an article entitled "International Efforts toward Financial and Programmatic Accountability" that appeared in the Spring/Summer 2008 edition of *The Journal of Public Inquiry*. It focused on the need for accountability in research funds, integrity in research, and evaluation in research, and discussed international accountability activities being undertaken in these topics. In addition, the IG co-authored an article that appeared in an April 2008 edition (Volume 452) of *Nature* magazine entitled "Investigating International Misconduct." It discussed incipient efforts towards creating a system that other

countries and research entities could voluntarily implement to better handle investigations of research misconduct both intra-national and international. The IG also wrote and recorded a companion Podcast for her *Nature* article for a segment called The Podium.

The Audit staff has continued to track and coordinate Government Accountability Office (GAO) audits of NSF programs during this period, and we provided comments on a GAO draft report, *Designated Federal Entities; Survey of Governance Practices and the Inspector General Role* (GAO-09-270), which included survey responses from the heads of designated entities and their IGs. NSF is a federal designated entity, and both the agency and the NSF IG responded to the survey.

OIG continued to conduct active outreach to the research community by delivering over 20 presentations to national educational associations, universities, professional associations, and groups of NSF grant recipients. However, due to resource constraints, we had to limit our outreach activities to presentations to large groups, such as professional associations, and those in close proximity to the D.C. area. We also maintained effective communications with the public in general through prompt responses to requests under the Freedom of Information Act, in which we met 100 percent of our processing milestones, and through posting audit reports within one day of issuance, as prescribed by law. Our website registered 223,000 “hits” during this period.

Acronyms

AD	NSF Assistant Director
AIG	Associate Inspector General
ARRA	American Recovery and Reinvestment
CAREER	Faculty Early Career Development Program
CAS	Cost Accounting Standards
CBA	Collective Bargaining Agreement
CIGIE	Council of Inspectors General on Integrity and Efficiency
CISE	Computer and Information Science and Engineering Directorate
COI	Conflict of Interest
COV	Committee of Visitors
DACS	Division of Acquisition and Cost Support
DCAA	Defense Contract Audit Agency
DD	Deputy Director
DGA	Division of Grants and Agreements
DIAS	Division of Institution and Award Support
DoD	Department of Defense
DoE	Department of Energy
DoJ	Department of Justice
ECIE	Executive Council of Integrity and Efficiency
EPSCoR	Experimental Program to Stimulate Competitive Research
FFRDC	Federally Funded Research and Development Centers
FISMA	Federal Information Security Management Act
GAO	Government Accountability Office
GAS	Government Auditing Standards
GPRA	Government Performance and Results Act
HHS	Department of Health and Human Services
IG	Inspector General
MIRWG	Misconduct in Research Working Group
MREFC	Major Research Equipment and Facilities Construction
NIH	National Institute of Health
NSB	National Science Board
NSF	National Science Foundation
OEOP	Office of Equal Opportunity Programs
OIG	Office of Inspector General
OMB	Office of Management and Budget
OPP	Office of Polar Programs
OPM	Office of Personnel Management
PCIE	President's Council on Integrity and Efficiency
PI	Principal Investigator
PFCRA	Program Fraud Civil Remedies Act
SBIR	Small Business Innovation Research
STC	Science and Technology Centers
USAP	United States Antarctic Program

Reporting Requirements

Under the Inspector General Act, we report to the Congress every six months on the following activities:

Reports issued, significant problems identified, the value of questioned costs and recommendations that funds be put to better use, and NSF's decisions in response (or, if none, an explanation of why and a desired timetable for such decisions). (See pp. 5, 13, 53)

Matters referred to prosecutors, and the resulting prosecutions and convictions. (See pp. 29, 63)

Revisions to significant management decisions on previously reported recommendations, and significant recommendations for which NSF has not completed its response. (See pp. 24, 56, audit reports w/ outstanding...)

Legislation and regulations that may affect the efficiency or integrity of NSF's programs. (See p. 9)

OIG disagreement with any significant decision by NSF management. (None)

Any matter in which the agency unreasonably refused to provide us with information or assistance. (None)

National Science Foundation
Office of Inspector General
4201 Wilson Blvd., Suite 1135
Arlington, VA 22230
703.292.7100



<http://www.nsf.gov/oig>
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