

OCTOBER 1, 2016 — MARCH 31, 2017

SEMIANNUAL REPORT TO CONGRESS



ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by Congress in 1950 “to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense....” It is governed by the National Science Board (NSB), which sets agency policies and provides oversight of its activities. NSF is vital because it supports basic research and people to create knowledge that transforms the future. With an annual budget of \$7.5 billion in fiscal year 2016, it is the funding source for approximately 24 percent of all federally supported basic research conducted by America’s colleges and universities. In many fields such as mathematics, computer science, and the social sciences, NSF is the major source of Federal backing.

ABOUT THE OFFICE OF INSPECTOR GENERAL

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

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FROM THE INSPECTOR GENERAL

I am pleased to present our Semiannual Report, which summarizes the work and accomplishments of our office during the first half of fiscal year 2017.

In this report, we focus on the impact of our work on the Foundation, and how our findings have inspired congressional action to improve the Foundation's efforts to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

We are making a difference. Our work has prompted the Foundation to make positive changes that corrected numerous issues and improved its programs and operations. For example, the Foundation has made progress in its management of large facilities, updating its *Large Facilities Manual* and amending appropriate cooperative support agreements to help ensure stronger controls over large facility construction projects.

Congress also took notice of our work, calling on us to testify two times. Inspired in part by our findings, recommendations, and testimony, the 114th Congress passed the *American Innovation and Competitiveness Act* (AICA), which included key oversight requirements to strengthen NSF's management of its large facilities, such as requiring a pre-award analysis of costs before making a large facility award and periodic external reviews on project management and performance. The AICA also requires the Foundation to report on its efforts to cut costs associated with employing individuals under the *Intergovernmental Personnel Act* (IPA). In 2015, NSF paid nearly \$8.9 million for 27 executive level IPAs. Because IPA salaries and benefits are funded with program-related appropriations, savings in IPA costs would free up funds for additional research.

We also have a strong relationship between our work investigating wrongdoing and our audits focused on fixing root causes. For example, a university agreed to pay nearly \$1.2 million to settle allegations that it failed to maintain adequate records to support expenditures under NSF awards. An audit of the university conducted by our Office of Audits had identified salary and non-salary expenditures with insufficient or no supporting documentation. Our investigation determined that in preparation for the audit, and in response to the preliminary audit findings, university employees fabricated time and effort reports and provided them to the auditors.

During this reporting period, OIG staff and contractors conducted audits of six NSF awardees that had expended more than \$880 million of NSF funds during the respective audit periods. Five of the audits assessed the reasonableness, allowability, and allocability of costs across all NSF awards at the institutions, and one focused on costs and cash management practices for operations and maintenance of an NSF research ship.

The five audits of all institutions' awards identified, in total, almost \$3 million of questioned costs. We made recommendations to NSF to recover the questioned amounts from University of California-Davis (\$2.3 million), University of California-San Diego (\$283,800), Pennsylvania State University (\$135,700), Scripps Institution of Oceanography (\$111,500), and Purdue University (\$91,300). We also made recommendations for the awardees to strengthen controls over the areas that led to the questioned costs.

This reporting period, our Office of Investigations continued the Pilot Program for Enhancement of Employee Whistleblower Protection, which provides whistleblower protections to employees of awardees who reasonably believe that they are being retaliated against for reporting allegations of misuse of Federal funds received by their

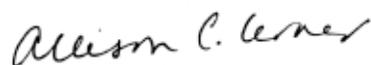
non-federal employers. Under the Pilot Program, we investigate such allegations and submit a report to NSF management, the complainant, and the awardee. NSF then determines whether there is sufficient basis to conclude that the awardee subjected the complainant to a prohibited reprisal.

Additionally, we have kept a close eye on the agency's management of conflicts of interest, initiating a full scope review and investigating an NSF Program Officer (PO) who ignored guidance provided to her by the NSF Designated Agency Ethics Official (DAEO) and her division Conflicts Official (CO) regarding the management of a cooperative agreement on which her home institution was a subawardee. The DAEO and CO told her that she was limited to providing subject matter technical expertise and that she could not participate substantially in the management of the agreement.

We continue to focus resources on areas of high risk — including the Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR) programs. We previously reported the conviction of a company owner for false statements, false claims, and criminal conversion involving a \$150,000 STTR Phase I award, and the subsequent filing of a civil complaint.¹ During this period, in response to our recommendation, NSF debarred the company and its owner for 5 years.

Finally, on December 16, 2016, the *Inspector General Empowerment Act of 2016* was signed into law. In addition to strengthening the independence of the Inspectors General, the Act establishes new reporting requirements for the semiannual reports to Congress, which you will see in this report for the first time.

Our work reflects our sustained commitment to helping NSF be an effective steward of taxpayer dollars and benefits from the support of NSF management and staff from across the Foundation. We look forward to our continued partnership with NSF, the National Science Board, and Congress to fulfill this goal.



¹ March 2015 Semiannual Report, p. 20; September 2015 Semiannual Report, p. 23

AUDITS AND REVIEWS

The Office of Audits is responsible for auditing grants, contracts, and cooperative agreements funded by the Foundation. We review agency operations and ensure that financial, administrative, and programmatic aspects of agency operations are conducted economically and efficiently. By providing independent and objective assessments of NSF's program and financial performance, we are committed to improving NSF's business policies and practices to better support NSF in promoting science and engineering research and education.

LARGE FACILITY RECOMMENDATIONS CLOSED DURING THIS SEMIANNUAL PERIOD

During this reporting period, NSF and OIG closed a significant number of recommendations relating to large facility issues. The recommendations stemmed from audits of the Daniel K. Inouye Solar Telescope (DKIST), Large Synoptic Survey Telescope (LSST), National Ecological Observatory Network (NEON), Earthscope, Sikuliaq, and Advanced Laser Interferometer Gravitational-wave Observatory (LIGO) construction projects as well as the overarching memo on NSF's Management of Cooperative Agreements. The closures were a result of NSF's continued work to develop standard operating guidance, update its *Large Facilities Manual*, and amend appropriate cooperative support agreements to ensure stronger controls over large facility construction projects. Such updated procedures include withholding a portion of contingency funds until a bona fide need is demonstrated, requiring detailed reviews of supporting documentation for award budget estimates, and requiring verification of earned value management systems. These new policies and procedures represent important steps by NSF toward the goal of increased accountability over the Foundation's largest and riskiest projects. While this progress is significant, NSF's work in this area is ongoing.

NSF NEEDS TO STRENGTHEN INFORMATION TECHNOLOGY CONTROLS

NSF depends on computerized information systems to process, maintain, and report essential information. Reliability of computerized data and systems is essential, and protecting information systems continues to be a challenge for NSF. In this reporting period, auditors identified challenges to the security of NSF's information technology (IT) environment in *Federal Information Security Modernization Act of 2014* (FISMA) and financial statement audits.

FY 2016 FISMA AUDIT IDENTIFIES FIVE WEAKNESSES

FISMA requires OIG to conduct an independent evaluation to assess the effectiveness of NSF's information security program and practices and to determine compliance with FISMA requirements. Under a contract with OIG, Kearney & Company (Kearney) conducted a performance audit of NSF's information security program and practices for FY 2016. Based on its independent evaluation, Kearney determined that NSF has an established information security program; however, further work is needed to address shortfalls in information systems and continuous process monitoring (ISCM) programs. Kearney identified five weaknesses in the areas of privileged account access; vulnerability remediation; and U.S. Antarctic Program (USAP) contingency planning, interconnection security agreements, and accreditation packages. The USAP contingency planning weakness was first identified in FY 2006. NSF's plan to correct this weakness is currently not scheduled to be implemented until FY 2020.

New recommendations included the development, approval, and implementation of policies and procedures for privileged account access provisioning. In addition, Kearney repeated prior year recommendations to develop and implement policies and procedures for reviewing open security vulnerabilities and implement a disaster recovery plan for Antarctic operations. NSF has provided a corrective action plan that, if implemented, should address the recommendations.

FY 2016 FINANCIAL STATEMENT AUDIT IDENTIFIES A SIGNIFICANT DEFICIENCY IN THE IT CONTROL ENVIRONMENT

Establishing and maintaining sound financial management is a top priority for the Federal Government because agencies need accurate and timely information to make decisions about budget, policy, and operations. The *Chief Financial Officer's Act of 1990* requires agencies to prepare annual financial statements, which must be audited by an independent entity.

Under a contract with OIG, Kearney conducted an audit of NSF's FY 2016 financial statements. Kearney issued an unmodified opinion on the financial statements; however, the auditors reported a significant deficiency in NSF's internal controls over the IT control environment. Kearney identified several deficiencies within NSF's access controls process across the three tested financial systems. Specifically, NSF did not properly authorize and recertify access at the application layer for two financial feeder systems, and it did not properly monitor privileged users' actions with the operating system and database layers for its core financial system and one of its financial feeder systems.

Without an effective access control program, NSF is vulnerable to weaknesses that increase the risk that sensitive financial information could be accessed by unauthorized individuals or that financial transactions could be altered, either accidentally or intentionally, and remain undetected. These access control weaknesses could compromise NSF's ability to report financial data accurately. NSF has provided a corrective action plan that, if implemented, should address the recommendations.

Auditors noted that NSF had made significant progress to correct weaknesses in prior financial statement audits pertaining to the monitoring of cooperative agreements for large construction projects, which had been cited as a significant deficiency each year beginning in FY 2011. As a result, NSF's monitoring of construction-type cooperative agreements is no longer considered a significant deficiency in the financial statement audit. In addition, NSF addressed an instance of noncompliance with the *Improper Payments Elimination and Recovery Act of 2010* reporting requirements, identified in the FY 2015 audit report.

Kearney also noted certain additional matters involving internal control over financial reporting, which did not rise to the level of a significant deficiency, that it reported to NSF's management in a separate letter.

Because management letter findings do not rise to the level of a significant deficiency or material weakness, we decided to no longer track management letter recommendations for Office of Management and Budget (OMB) Circular A-50, *Audit Followup*, purposes and closed several outstanding recommendations. However, auditors will continue to review the status of any open recommendations in future financial statement audits.

NSF SHOULD TAKE ADDITIONAL STEPS TO ENSURE COMPLIANCE WITH THE DIGITAL ACCOUNTABILITY AND TRANSPARENCY ACT OF 2014

The *Digital Accountability and Transparency Act of 2014* (DATA Act) requires Federal agencies, including NSF, to report financial and payment data by May 2017 in accordance with data standards, definitions, and guidance established by the U.S. Department of Treasury (Treasury) and OMB. We conducted an inspection to evaluate the processes, systems, and controls that NSF has implemented, or plans to implement, to report financial and payment data in accordance with the requirements of the DATA Act and to determine whether NSF is positioned to meet the statutory May 2017 reporting deadline.

We found NSF has made progress in implementing the DATA Act but needs to take additional steps to strengthen its project management practices to ensure compliance with all reporting requirements. We could not determine whether NSF will meet the DATA Act's May 2017 reporting deadline, in part due to external challenges, such as changes and delays in implementation guidance.

We recommended NSF strengthen its project management over DATA Act implementation by completing a detailed project management plan, improving its Risk Management Plan, documenting and tracking risks, developing a Human Resource Plan, and documenting decisions in a timely manner. NSF generally agreed with our recommendations, and recognized there are opportunities to strengthen project management practices to help mitigate risks to DATA Act implementation. NSF has already taken corrective actions, including developing a detailed project management plan and risk register, to address our recommendations.

NSF RELOCATION BASELINE SCHEDULE IS INCOMPLETE

NSF is preparing to move to its new headquarters in Alexandria, Virginia, on or about September 1, 2017. The leases on the buildings NSF currently occupies in Arlington, Virginia, expire at the end of December 2017, and rent will likely increase if NSF has to extend the leases.

NSF established a baseline relocation schedule as of May 2016 to manage and monitor activities that NSF and several contractors must complete before the relocation. The baseline relocation schedule's activities include the construction contractor's activities to finish the building's interior as well as both NSF's and another contractor's activities to ensure the building is operational prior to the move.

We found NSF did not include all key information in its May 2016 relocation baseline schedule, such as the order in which certain tasks contained in the schedule must occur and the resources needed to complete the activities included in the schedule. We also found status information in the schedule may not always be current because NSF receives only monthly updates from the construction contractor instead of weekly or bi-weekly as recommended by the Government Accountability Office. These issues could undermine NSF's ability to effectively use the schedule to support management oversight of the construction process by making it harder to identify and mitigate project risks.

We recommended NSF senior management take appropriate action to strengthen the baseline schedule, including linking predecessor and successor activities and assigning resources to all activities in the schedule. We also recommended NSF work with the General Services Administration and other applicable parties to determine whether more frequent updates on the building's construction are feasible.

NSF responded that the General Services Administration lease controls the frequency of updates on the building's construction and that NSF relies on other reports and meetings to gauge the progress of construction. NSF did not agree to update the baseline schedule with resources or link predecessor and successor activities. NSF believes the cost of updating the baseline schedule, as we recommended, would outweigh the possible benefits. In lieu of our recommendations, NSF provided us with an updated integrated project schedule on February 17, 2017, which we are reviewing. At OIG's request, NSF also provided additional information in which it linked predecessor and successor activities.

NSF COULD STRENGTHEN ITS REPORTING OF CONFERENCE COSTS

We conducted an audit to determine whether NSF's conference costs and related reporting complied with OMB requirements and NSF policy and to determine whether opportunities exist to reduce conference costs. NSF reported it held 11 conferences each costing more than \$100,000 from October 1, 2012, through June 30, 2015.

We found that NSF could strengthen its reporting of conference costs to improve its compliance with OMB requirements. We identified three specific areas for improving conference reporting. First, NSF's cost data was not

always accurate because NSF sometimes reported estimated rather than actual costs. Second, the reported costs for some conferences did not include spending for contractors involved in conference planning. Therefore, NSF may not have identified and reported all conferences that cost more than \$100,000. Finally, NSF reported the estimated number of attendees rather than the actual number of attendees.

In addition, we identified three actions NSF could take to reduce conference costs. Our suggested actions included obtaining and reviewing all receipts for conference-related expenses, ensuring that per diem allowances are reduced when meals are provided to NSF employees, and exploring ways to reduce hotel contract penalty charges for not meeting minimum room or food/beverage commitments. NSF generally concurred with the recommendations, and we agree that the proposed corrective actions adequately address the recommendations.

AUDITS OF NSF AWARDEES

OIG staff and contractors conducted audits of six NSF awardees that had expended more than \$880 million of NSF funds during the respective audit periods. Five of the audits assessed the reasonableness, allowability, and allocability of costs across all NSF awards at the institutions, and one focused on costs and cash management practices for operations and maintenance of an NSF research ship.

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We note that \$1.9 million of the questioned costs at University of California-Davis and Pennsylvania State University involved salaries and associated costs that were claimed for senior research personnel in excess of NSF limits. Similar charges have been questioned in several prior audits, but NSF has not sustained the questioned costs, even when the awardee agreed to repay the disputed amount. Although we considered it unlikely that NSF would reverse its course and uphold the related findings in these two audits, our opinion remains that the costs were in violation of NSF policy in effect at the time the claims were made.

Our audit of ship operations and maintenance activities at Oregon State University found \$3,000 of questioned costs and identified an additional \$315,000 of NSF funds that will be put to better use by implementing our recommendations. We recommended NSF recover the questioned costs and direct the university to improve its cash management practices to safeguard Federal funds and bring the program into compliance with Federal and university requirements. We are working with NSF to resolve all audit findings and recommendations.

NSF also resolved four awardee audits during the semiannual reporting period. NSF sustained the following amounts questioned in the respective audit reports: \$334,949 for Columbia University (Audit Report No. 16-1-021); \$231,320 for Jackson State University (Audit Report No. 13-1-002); \$92,667 for the University of Michigan (Audit Report No. 09-1-014); and \$35,573 for Cornell University (Audit Report No. 13-1-004).

AUDITS OF BOOZ ALLEN HAMILTON'S NSF CONTRACTS

Two audits of NSF contracts with Booz Allen Hamilton (BAH) were also resolved this period. The first, an audit of BAH's incurred costs for FY 2008, questioned \$466,446 of direct and indirect costs on two NSF contracts and the second, of BAH's incurred costs for FY 2009, questioned \$1,171,673 of indirect costs on three NSF contracts. After completion of the audits, the Defense Contract Audit Agency, which performed the audits, provided updated information that reduced the original questioned costs to \$73,190 for FY 2008 and to \$157,106 for FY 2009. Of these amounts, NSF sustained \$56,720 and \$125,571 respectively, making the management decision to allow the differences as immaterial, considering the total of amount of incurred costs of \$24.5 and \$30.4 million for those

specific contracts and the additional time it would take to reconcile these costs. We would have preferred that NSF recover all funds due to the Federal Government. However, given the complexity and nature of negotiations for this contract settlement, after the fact, we agree that it is no longer cost effective to pursue recovery.

NSF HAS IMPLEMENTED NEW POLICIES AND PROCEDURES TO REDUCE OPERATING COSTS, IMPROVE CONTROLS, AND ENSURE COMPLIANCE WITH LAWS AND REGULATIONS

During this reporting period, NSF took final corrective actions on six internal OIG reports. NSF reviewed how to reduce the costs associated with costs with employing IPAs and identified ways to reduce the costs of IPAs by approximately \$3.4 million.

NSF improved internal controls by developing policies and procedures for managing and overseeing its workers' compensation cases and strengthened controls over travel cards to prevent misuse and detect improper charges.

NSF strengthened controls to ensure compliance with laws and regulations by developing a risk register and detailed project management plan to help ensure it can meet the reporting deadlines specified in the DATA Act. NSF also developed new guidance for procuring cloud computing services and new terms and conditions to enforce FedRAMP and OMB cloud computing requirements. Finally, the NSB updated its procedures to ensure it complies with the requirements of the *Government in the Sunshine Act* for its NSB meetings. The NSB created new procedures to help ensure it closes NSB meetings consistent with the exemptions in the Act and posts information to the public by the timeframes specified in the Act.

SINGLE AUDITS

OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*, and Title 2 U.S. Code of Federal Regulations (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* ("Uniform Guidance"), provide audit requirements for state and local governments, colleges and universities, and non-profit organizations receiving Federal awards. Under the guidance, covered entities that expend \$500,000 or more a year (\$750,000 or more for audit periods ending on or after December 26, 2015) in Federal awards must obtain an annual organization-wide audit that includes opinions on 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. OIG reviews the resulting audit reports to ensure that the reports comply with the requirements of OMB Circular A-133, the Uniform Guidance, and Government Auditing Standards.

PERCENTAGE OF SINGLE AUDITS THAT FULLY MEET FEDERAL REQUIREMENTS DECREASED FROM 83 PERCENT TO 58 PERCENT IN 1 YEAR

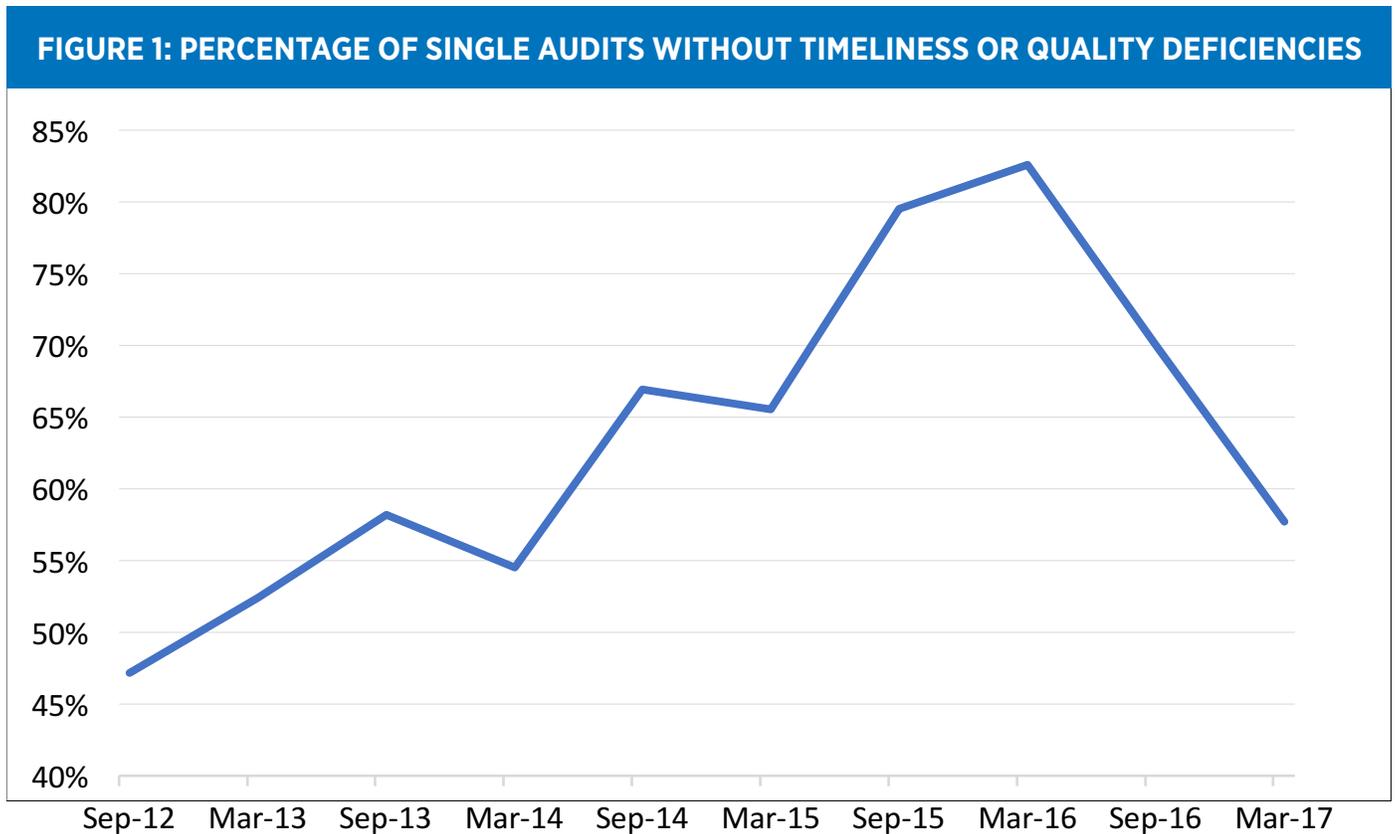
The audit findings in Single Audit Reports are useful to NSF in planning advanced monitoring site visits and other post-award monitoring efforts. Because of the importance of Single Audit Reports to this oversight process, we conduct desk reviews on all reports for which NSF is the cognizant or oversight agency for audit, and provide guidance to awardees and auditors to improve audit quality in future reports. In addition, we return to the awardees reports that are deemed inadequate so the awardees can work with the audit firms to take corrective action.

During the period, we conducted desk reviews of 71 audit reports² and found that 41 (58 percent) fully met Federal reporting requirements. The quality issues identified in 30 reports included 18 reports in which the Schedule of Expenditures of Federal Awards did not include required information to allow for identification of awards received from or passed-through to other non-federal entities and/or did not adequately describe the significant

² The audits were conducted by 45 different independent public accounting firms.

accounting policies used to prepare the schedule. In addition, 7 reports were not submitted to the Federal Audit Clearinghouse in a timely manner; 5 reports included incomplete presentations of the audit findings; 3 reports contained incomplete Corrective Action Plans to address the audit recommendations; 10 reports were submitted to the Federal Audit Clearinghouse with an inaccurate Data Collection Form (Form SF-SAC); and 1 report failed to include all of the required report elements.

As noted in Figure 1, after a steady increase in audit quality over the past several years, the percentage of reports that fully met Federal reporting requirements during this period continued the recent trend downward and resulted in a marked decrease in quality, falling from a high of 83 percent in March 2016 to 58 percent in this period. While some of the deficiencies identified during this period can be attributed to the newness of the 2 CFR 200 requirements, the rate of decrease in 1 year is a cause for concern that we will continue to monitor.



Source: NSF OIG

For those errors that potentially impacted the reliability of the audit reports, we contacted the auditors and awardees, as appropriate, for explanations of each of the potential errors. In most cases, the auditors and awardees either provided adequate explanations and/or additional information to demonstrate compliance with Federal reporting requirements. However, in two instances, the quality deficiencies were significant enough to call into question the reliability of the audit results. We rejected these two reports and returned them to the auditors and awardees for revision. After we completed our review of the other 69 reports, we issued a letter to each auditor and awardee informing them of the results of our review and the specific issues they should work on to improve the quality and reliability of future reports.

INVESTIGATIONS

The Office of Investigations is dedicated to promoting efficiency and effectiveness in NSF programs and operations. We investigate wrongdoing involving organizations or individuals that receive awards from, conduct business with, or work for NSF. We assess the seriousness of misconduct and recommend proportionate action, and we work in partnership with agencies and awardees to resolve issues when possible.

PROGRAM INTEGRITY INVESTIGATIONS

As part of our mission, we investigate allegations concerning misuse of NSF funds, false statements in documents submitted to NSF, and employee misconduct. When we identify a violation of a criminal or civil statute, we refer our investigations to the Department of Justice for criminal prosecution or civil action. When appropriate, we also refer matters to NSF for administrative action, such as award termination and government-wide suspension/debarment.

UNIVERSITY SETTLED INVESTIGATION FOR NEARLY \$1.2 MILLION AND FORMER UNIVERSITY EMPLOYEE SENTENCED

A university agreed to pay nearly \$1.2 million to settle allegations that it failed to maintain adequate records to support expenditures under NSF awards. The settlement with the Department of Justice also required the university to implement a 5-year compliance plan to ensure it will exercise proper oversight of NSF awards in the future.

An audit of the university conducted by our Office of Audits had identified salary and non-salary expenditures with insufficient or no supporting documentation. Our investigation determined that in preparation for the audit, and in response to the preliminary audit findings, university employees fabricated time and effort reports and provided them to the auditors. One former university employee who previously pled guilty to falsifying time and effort reports, and directing others to do so,³ was sentenced to 1 year of probation.

FEDERAL EMPLOYEE IMPROPERLY RECEIVED NSF AWARD

We received an allegation that an employee at another Federal agency improperly applied for and was granted an NSF award, thus violating a Federal ethics statute. We determined that the employee submitted the proposal to NSF using his university position (adjunct professor) in direct violation of written guidance provided by his agency's ethics officials. The employee also lied to an agency ethics official and others when directly questioned about the NSF award. The employee's actions not only violated Federal ethics law, but also agency ethics rules and NSF proposal guidelines. We referred the matter to the other agency's OIG for information and action as deemed appropriate.

EMPLOYEE INVESTIGATED FOR CONTRACT IRREGULARITIES

We investigated a senior Government employee for contract-related irregularities. The investigation did not reveal facts sufficient to establish violation of a civil or criminal statute; therefore, the matter was not referred to the Department of Justice. However, we submitted the investigative report to management to consider for administrative action. The employee retired from Federal service.

3 September 2015 Semiannual Report, p. 23

NSF SUSPENDED AWARD TO SBIR COMPANY

In response to our recommendation, NSF suspended an SBIR Phase I award, pending the completion of our investigation into allegations that the SBIR company owner made false statements in the proposal and to a PO.

GRANTEE EMPLOYEE ALLEGES RETALIATION FOR WHISTLEBLOWING

The Pilot Program for Enhancement of Employee Whistleblower Protection, 41 U.S.C. § 4712, provides whistleblower protections to employees of awardees who reasonably believe that they are being retaliated against for reporting allegations of misuse of Federal funds received by their non-federal employers. Under the Pilot Program, we investigate such allegations and submit a report to NSF management, the complainant, and the awardee. NSF then determines whether there is sufficient basis to conclude that the awardee subjected the complainant to a prohibited reprisal.

Under the Pilot Program, we investigated an allegation that a university removed a co-Principal Investigator from an NSF award in retaliation for disclosing to university officials allegations of plagiarism and misrepresentations in an award publication and for questioning the award's Principal Investigator (PI) on budget irregularities. The university maintains that it removed the employee due to budgetary concerns and because of the employee's poor performance and behavioral issues. We submitted a report of investigation to NSF management; the agency's determination is pending.

ACTIONS RESULTING FROM PREVIOUSLY REPORTED PROGRAM INTEGRITY INVESTIGATIONS

We previously reported⁴ that a former graduate student pled guilty to one count of wire fraud for falsifying portions of a fellowship application, including fabricating a letter of support and forging an associated signature. In this reporting period, a Federal court sentenced the former graduate student to 3 years of probation, including 50 hours of community service, and ordered the graduate student to pay nearly \$40,000 in restitution. We recommended that NSF debar the student for 5 years; the agency's decision is pending.

As previously reported,⁵ a community college returned more than \$300,000 for improperly charged costs to an NSF grant. Additional investigation revealed improperly charged costs of nearly \$170,000 on another NSF grant; the college returned these funds to NSF as well.

In addition, we previously reported the conviction of an STTR company owner for false statements, false claims, and criminal conversion involving a \$150,000 STTR Phase I award, and the subsequent filing of a civil complaint.⁶ During this period, in response to our recommendation, NSF debarred the company and its owner for 5 years.

ADMINISTRATIVE INVESTIGATIONS

Our office investigates a wide variety of allegations that are not pursued as criminal or civil matters or do not meet the strict definition of research misconduct. These cases, which are resolved administratively, include (but are not limited to) misallocation of grant funds, violations of human and animal subject regulations, violation of peer review, conflict of interest, and employee misconduct.

AGENCY PERSONNEL IGNORE CONFLICTS OF INTEREST GUIDANCE

An NSF PO ignored guidance provided to her by the NSF DAEO and her division CO regarding the management of a cooperative agreement on which her home institution was a subawardee. The DAEO and CO told her that she was limited to providing subject matter technical expertise and that she could not participate substantially in the management of the agreement. However, her Section Head (SH) subsequently told her that she could manage the award except for signing documents uploaded to the NSF eJacket award management system. Two fellow POs also followed the SH's guidance and facilitated the PO's participation.

⁴ September 2016 Semiannual Report, p. 17

⁵ March 2016 Semiannual Report, p. 22

⁶ March 2015 Semiannual Report, p. 20; September 2016 Semiannual Report, p. 23

The PO attended project oversight committee meetings with awardee and subawardee representatives (including from her home institution), reviewed quarterly reports and funding requests, and drafted analyses and funding recommendations for fellow POs to sign. These recommendations included funding for her home institution. Contemporaneous emails from the PO, the SH, and a fellow PO indicate that they were aware that the PO continued to engage in conduct that was inconsistent with advice provided by the CO and DAEO, and thought that they could maintain an appearance of compliance by attaching an unconflicted PO's name to emails drafted, determinations made, and actions taken by the conflicted PO.

The PO's conduct was an apparent violation of 18 U.S.C. § 208. We therefore referred the matter to the Department of Justice, which declined prosecution. The PO's conduct also was an apparent violation of the administrative conflicts-of-interest standards. We recommended NSF review these violations and determine if the subject PO, the other POs involved, and the SH violated conflicts standards and take appropriate action. NSF determined that the PO, her SH, and one other PO did violate the standards. All three had either returned to their home institutions or retired; NSF will bar them from serving as reviewers or consultants for 5 years.

ACTIONS BY NSF MANAGEMENT ON PREVIOUSLY REPORTED ADMINISTRATIVE INVESTIGATIONS

NSF has taken various actions to address our recommendations in administrative cases reported in previous Semiannual Reports:

- In the case of a university PI with two suspended awards,⁷ NSF financially closed the two awards following their expiration date, resulting in nearly \$300,000 of award funds put to better use. NSF had previously declined the PI's request to transfer the two suspended awards to another university where the PI obtained a new faculty position.
- In the case of the graduate student who submitted 11 NSF proposals to receive funding for work he had already completed,⁸ NSF imposed a 3-year debarment.
- In the case of the professor who violated CAREER award requirements,⁹ NSF terminated the award, and more than \$200,000 was put to better use.

RESEARCH MISCONDUCT INVESTIGATIONS

Research misconduct damages the scientific enterprise, is a potential misuse of public funds, and undermines the trust of citizens in government-funded research. It is imperative to the integrity of research funded with taxpayer dollars that NSF-funded researchers carry out their projects with the highest ethical standards. For these reasons, pursuing allegations of research misconduct (plagiarism, data fabrication, and data falsification) by NSF-funded researchers continues to be a focus of our investigative work.

NSF takes research misconduct seriously, as do NSF's awardee institutions. During this reporting period, institutions took actions against individuals found to have committed research misconduct, ranging from letters of reprimand to revocation of Ph.D. degrees and termination of employment. NSF's actions in research misconduct cases ranged from letters of reprimand to a 5-year debarment.

In every case discussed below, we recommended that the agency make a finding of research misconduct, issue a letter of reprimand, and require the subject to complete a Responsible Conduct of Research (RCR) training program. We also recommended additional significant actions as summarized below; unless otherwise specified, NSF's decisions are pending.

⁷ September 2015 Semiannual Report, p. 28

⁸ March 2016 Semiannual Report, p. 24; September 2016 Semiannual Report, p. 23

⁹ September 2016 Semiannual Report, p. 20

GRADUATE STUDENT FALSIFIES DATA IN CONFERENCE POSTER

A graduate student who was supported by an NSF Graduate Research Fellowship Program award and was also a participant on another NSF award falsified data in a poster that she presented at a conference. The other award's PI, who was the student's mentor, then included the falsified data in the award's Annual Report.

The student admitted to her actions and the university's Inquiry Committee concluded the student's data falsification was intentional. The university suspended the student for 1 year and prohibited her from returning to the University for an additional 3 years. The student departed the university.

We concurred with the university's findings and recommended that NSF debar her for 3 years. We further recommended that, for 3 years after the debarment period, NSF require certifications and assurances and submission of a detailed data management plan, and bar her from participating as a peer reviewer, advisor, or consultant for NSF.

GRADUATE STUDENT FALSIFIED DATA IN PAPERS AND DISSERTATION

A former graduate student falsified data in a research project supported by NSF. A university investigation into these allegations concluded the graduate student intentionally falsified data and, thus, committed research misconduct.

The falsified data was contained in his dissertation as well as in two published research articles. The university notified the articles' co-authors of its finding and requested the journal retract them; it directed the former graduate student's advisor (PI on the NSF grant) to immediately change several laboratory practices to include ensuring original data are retained. Based on the recommendation of the investigation committee, the university rescinded the student's Ph.D. degree.

We concurred with the university and concluded the former graduate student committed research misconduct. We recommended NSF debar him for 1 year. We further recommended that, for 2 years after the debarment period, NSF require him to provide certifications and assurances and bar him from serving as a peer reviewer, advisor, or consultant.

ASSISTANT PROFESSOR SUBMITS PROPOSAL CONTAINING PLAGIARISM

An assistant professor submitted a proposal to NSF containing copied material in its background and motivation section and its proposed research section. The assistant professor stated that he was unaware that proposals needed to be held to the same citation standards as publications, and that one of his students had prepared the background section. We referred the investigation to his university.

The university's investigation concluded that the assistant professor committed plagiarism. It further found a pattern of plagiarism in other NSF proposals, in a proposal submitted to another Federal agency, and in one conference paper. It determined that, although the assistant professor asked his student to prepare a literature review, the student did not know the purpose of the review and was not told that the assistant professor would use his text verbatim. The university required the assistant professor to take online RCR training and, for 4 years, submit all proposals to plagiarism detection software and provide evidence of this review to a university official before any proposal submission.

We reviewed the university's report and determined that we needed to clarify the assessment of intent. Our review of intent concluded that the assistant professor had an awareness or understanding that he was including verbatim material into the proposal, thereby acting with knowing intent. We recommended that NSF require the assistant professor to submit certifications and assurances for 2 years.

ASSISTANT PROFESSOR INFORMS US OF ADDITIONAL PLAGIARISM

An assistant professor submitted an NSF proposal containing copied material in its plan of work section describing nonstandard experimental procedures. During our inquiry, the assistant professor told us he did not know when to properly use quotation marks and acknowledged he failed to reference one of the sources we identified. He also informed us that the proposal contained additional copied text from other sources and that his two other NSF proposals also contained copied text. We referred the investigation to the assistant professor's university.

The university's investigation concluded that the assistant professor intentionally committed plagiarism, which it deemed a significant departure from accepted practices. It further found a pattern of plagiarism in two other proposals submitted to another Federal agency. The university required the assistant professor to complete RCR training, be mentored by a senior faculty member, and have all proposal submissions reviewed for 3 years. It also required all his students to complete RCR training.

Our investigation concluded that the assistant professor committed the plagiarism knowingly. We found that he had an awareness or understanding of his actions but did not act with a motive to achieve a specific illicit purpose through the misconduct. We recommended that NSF require the assistant professor submit certifications and assurances for 1 year.

ACTIONS BY NSF MANAGEMENT ON PREVIOUSLY REPORTED RESEARCH MISCONDUCT INVESTIGATIONS

NSF has taken administrative action to address our recommendations on eight research misconduct cases reported in previous Semiannual Reports. In each case, NSF made a finding of research misconduct, issued a letter of reprimand, and required RCR training. NSF also took additional significant actions in response to our recommendations:

- In the case of a graduate student who falsified data,¹⁰ NSF found the graduate student committed research misconduct and debarred her for 5 years.
- In the case of a university associate professor who falsified data and fabricated results in a published manuscript,¹¹ NSF proposed a 5-year debarment followed by 5 years of certifications, assurances, and the submission of detailed data management plans with annual certifications of adherence. NSF also proposed barring the associate professor from serving as an NSF reviewer, advisor, or consultant for 5 years.
- In the case of a doctoral student who fabricated data in an NSF-funded project that was published in a journal article,¹² NSF debarred the student for 3 years and required certifications and assurances for 6 years.
- In the case of an assistant professor who submitted nine proposals containing both plagiarized text and ideas already published by other researchers,¹³ NSF required 4 years of certifications and assurances, and imposed a 2-year ban on service as a reviewer, advisor, or consultant for NSF. NSF also proposed a 2-year debarment.
- In the case of a graduate student who fabricated data in multiple publications,¹⁴ NSF imposed a 1-year debarment and directed the student to provide certifications and assurances for 2 years.
- In the case of a full professor whose awarded proposal was determined to have plagiarized text,¹⁵ NSF allowed the suspended award to expire without extension, resulting in more than \$80,000 of Federal Government funds put to better use.

¹⁰ September 2015 Semiannual Report, p. 29

¹¹ September 2016 Semiannual Report, p. 21

¹² March 2016 Semiannual Report, p. 26

¹³ September 2016 Semiannual Report, p. 22

¹⁴ September 2015 Semiannual Report, p. 30

¹⁵ March 2016 Semiannual Report, p. 30 and
September 2016 Semiannual Report, p. 24

- In the case of a PI who submitted an NSF proposal in which three of five pages in the literature review contained copied text,¹⁶ NSF required the PI to submit certifications documenting his full compliance with the university-imposed actions, which require the PI to participate in a supervisory meeting to discuss the seriousness of his actions, identify steps to prevent future occurrences, take training about plagiarism prevention, and submit all grant proposals to a university official for review for 2 years.
- In the case of an assistant professor who recklessly plagiarized,¹⁷ NSF imposed 1 year of certifications and assurances and a 1-year ban on serving as a reviewer, advisor, or consultant for NSF.

¹⁶ March 2016 Semiannual Report, p. 27

¹⁷ March 2016 Semiannual Report, p. 28

CONGRESSIONAL TESTIMONY

The Inspector General testified before Congress twice this reporting period.

A LOOK AHEAD: INSPECTOR GENERAL RECOMMENDATIONS FOR IMPROVING FEDERAL AGENCIES

On February 8, 2017, the Inspector General testified before the U.S. Senate Committee on Commerce, Science, and Transportation at a hearing titled, “A Look Ahead: Inspector General Recommendations for Improving Federal Agencies.”

The Inspector General’s testimony focused on four of NSF’s most pressing challenges for FY 2017: management of cooperative agreements for large facility research projects, management of the IPA program, management of the USAP, and improving grant administration. The testimony also briefly discussed risks associated with NSF’s move to its new building, which is scheduled to begin toward the end of this fiscal year.

The Inspector General also highlighted NSF and OIG efforts to strengthen accountability. A key contribution to the progress to date has been made by the Stewardship Collaborative, a group which was established by NSF and OIG in 2010 as a collective effort by both offices to help achieve the shared mission of proper stewardship of the taxpayer’s investment in science, engineering, and education. Along with increasing positive communication, the Collaborative has been instrumental in resolving a number of critical audit recommendations.

NATIONAL SCIENCE FOUNDATION PART 1: OVERVIEW AND OVERSIGHT

On March 9, 2017, the Inspector General testified before the U.S. House of Representatives Committee on Science, Space, and Technology, Subcommittee on Research and Technology at a hearing titled, “National Science Foundation Part 1: Overview and Oversight.”

The Inspector General’s testimony focused on three of NSF’s continuing accountability challenges and the Foundation’s progress toward addressing associated OIG recommendations:

- Establishing accountability over large cooperative agreements;
- Management of the IPA program; and
- Ensuring the ethical conduct of research.

ESTABLISHING ACCOUNTABILITY OVER LARGE COOPERATIVE AGREEMENTS

Since 2010, OIG has issued 28 reports containing more than 80 recommendations to improve NSF’s use and management of cooperative agreements for the construction and operation of its high-dollar, high-risk research facilities. As a result of these reports, NSF has developed new policies and procedures to strengthen its monitoring of such facilities. OIG and NSF management continue to work together to resolve these recommendations.

MANAGEMENT OF THE IPA PROGRAM

In response to our recommendations related to the costs of IPAs, NSF no longer reimburses IPAs for lost consulting income. NSF also formed a steering committee in April 2016 to explore opportunities to reduce IPA costs and indicated that it will pilot a required 10 percent cost sharing of IPAs' academic-year salary and fringe benefits in FY 2017. On March 3, 2017, the NSF Director issued a memorandum stressing how important it is for all employees and rotators to uphold the highest ethical standards.

Moving forward, we will continue to monitor NSF's actions in response to our IPA-related recommendations. We will also examine NSF's actions in response to the AICA, which required the Foundation to report on its efforts to cut costs associated with employing IPAs.

ENSURING THE ETHICAL CONDUCT OF RESEARCH

NSF and OIG recently developed a new system to track the Foundation's response to our recommendations related to our research misconduct investigations. This system provides increased transparency and helps both NSF and OIG track the status of the recommendations.

We also perform outreach to universities and others in the research community to provide training. In addition, our website contains links to all research misconduct case close-outs, which illustrate the fact patterns from our cases that can be used for training. We will continue our investigative and outreach efforts in this area.

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	\$11,714,680
B.	Recommendations that were issued during the reporting period	\$315,016
C.	Adjustments related to prior recommendations	\$0
Subtotal of A+B+C		\$12,029,696
D.	For which a management decision was made during the reporting period	\$0
	i: Dollar value of management decisions that were consistent with OIG recommendations	\$0
	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	\$12,029,696
For which no management decision was made within 6 months of issuance		\$11,714,680

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	20	\$17,415,970	\$3,050,180
B.	That were issued during the reporting period	6	\$2,955,846	\$0
C.	Adjustment related to prior recommendations	10	-\$3,240,451 ¹⁸	-\$779,444 ¹⁹
Subtotal of A+B+C		36	\$17,131,365	\$2,270,736
D.	For which a management decision was made during the reporting period	7	\$5,591,856	\$1,890,325
	i: Dollar value of disallowed costs	N/A	\$912,074	N/A
	ii: Dollar value of costs not disallowed	N/A	\$4,679,782	N/A
E.	For which no management decision had been made by the end of the reporting period	11	\$11,539,509	\$380,411
For which no management decision was made within 6 months of issuance		5	\$8,583,663	\$380,411

¹⁸ A total of \$3,240,451 questioned costs in 10 reports were removed from this audit table. Seven of the reports were single audits. As of 10/1/16, the responsibility for reviewing single audits was transferred from OIG to NSF. Thus, as shown below, the seven single audit reports with questioned costs for which no management decision had been made by the commencement of the reporting period were removed from this table:

REPORT NO.	QUESTIONED COSTS REMOVED
15-5-094	\$15,846
16-4-052	\$962,298
16-4-059	\$328
16-5-009	\$137,687
16-5-024	\$5,745
16-5-032	\$1,196
16-5-081	\$37,419
Single Audits Total	\$1,160,519

For the other three reports:

- \$625,701 questioned costs were removed from Report No. 13-1-002 as those costs were analyzed elsewhere in OIG.
- All \$76,905 questioned costs were removed from Report No. 16-6-006 because the awardee adjusted its indirect costs in the subsequent fiscal year based on its final rates.
- \$1,377,326 questioned costs were removed from Report No. 16-6-007 because that awardee also adjusted its indirect costs in the subsequent fiscal year based on its final rates.
(1,160,519 + 625,701 + 76,905 + 1,377,326 = 3,240,451)

¹⁹ Associated with the adjustments in the footnote above, unsupported costs of \$15,846 for Report No. 15-5-094, \$137,687 for Report No. 16-5-009, \$210 for Report No. 16-5-081, and \$625,701 for Report No. 13-1-002 were also removed from this table. (15,846 + 137,687 + 210 + 625,701 = 779,444)

STATUS OF RECOMMENDATIONS THAT INVOLVE INTERNAL NSF MANAGEMENT OPERATIONS

Open Recommendations (as of 09/30/2016)

Recommendations Open at the Beginning of the Reporting Period	146
New Recommendations Made During Reporting Period	24
Total Recommendations to be Addressed	170
Management Resolution of Recommendations²⁰	
Awaiting Resolution	5
Resolved Consistent with OIG Recommendations	148
Management Decision That No Action is Required	
Final Action on OIG Recommendations²¹	
Final Action Completed	128
Recommendations Open at End of Period (03/31/2017)	42

AGING OF OPEN RECOMMENDATIONS

Awaiting Management Resolution

0 through 6 months	2
More than 6 months through 12 months	1
More than 12 months	2

Awaiting Final Action After Resolution

0 through 6 months	17
More than 6 months through 12 months	11
More than 12 months	9

²⁰ "Management Resolution" occurs when OIG and NSF management agree on the corrective action plan that will be implemented in response to the audit recommendation.

²¹ "Final Action" occurs when management has completed all actions it agreed to in the corrective action plan.

LIST OF REPORTS

OIG AND CPA-PERFORMED REVIEWS ²²				
Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds
17-1-001	Pennsylvania State University	\$135,695	\$0	\$0
17-1-002	University of California – Davis	\$2,330,503	\$0	\$0
17-1-003	Purdue University	\$91,281	\$0	\$0
17-1-004	Audit of R/V Oceanus Operations Award	\$3,050	\$0	\$315,016
17-1-005	Scripps Institution of Oceanography, University of California, San Diego	\$111,516	\$0	\$0
17-1-006	University of California, San Diego	\$283,801	\$0	\$0
17-2-001	FY 2016 Financial Statement Audit	\$0	\$0	\$0
17-2-003	FY 2016 FISMA Metrics Report	\$0	\$0	\$0
17-2-004	FY 2016 FISMA Independent Evaluation	\$0	\$0	\$0
17-2-005	FY 2016 Financial Statement Management Letter	\$0	\$0	\$0
17-2-007	Audit of NSF's Conference Spending	\$0	\$0	\$0
17-3-001	DATA Act Readiness Review	\$0	\$0	\$0
17-3-002	NSF Relocation: Part 3 Schedule	\$0	\$0	\$0
Total:		\$2,955,846	\$0	\$315,016

²² The Office issued 13 reports this semiannual period.

SUMMARY TABLE

REPORTS ISSUED ON OR BEFORE 9/30/16 ²³ WITH UNIMPLEMENTED RECOMMENDATIONS AS OF 3/31/17			
Year	Number of Reports with Unimplemented Recommendations	Number of Unimplemented Recommendations	Dollar Value of Aggregate Potential Cost Savings ²⁴
2006	1	2	N/A
2007	2	2	N/A
2009	1	4	\$92,667
2012	1	2	N/A
2013	2	8	\$266,893
2014	2	3	\$11,714,680 ²⁵
2015	5	67	\$3,870,316
2016	13	97	\$5,241,012
Total	27	175	\$21,185,568

²³ NSF has commented on all reports within 60 days of receipt.

²⁴ Aggregate potential savings are **questioned costs** if the recommendations have not been resolved, and **sustained costs** if the recommendations have been resolved.

²⁵ The \$11,714,680 (for Report No. 14-1-005) is funds put to better use (potential cost savings), not questioned costs (potential costs that could be returned to the government).

DETAILED TABLE²⁶

REPORTS ISSUED ON OR BEFORE 9/30/16, FOR WHICH NO MANAGEMENT DECISION HAS BEEN MADE BY 3/31/17, INCLUDING THE AGGREGATE POTENTIAL COST SAVINGS OF THOSE RECOMMENDATIONS

Report No.	Issue Date	Title	Summary	No. of Recs. w/o Mgmt. Decision	Why Mgmt. Decision Has Not Been Made	Desired Timetable for a Mgmt. Decision	Aggregate Potential Cost Savings
14-1-005	9/30/14	Independent Audit of Association of Universities for Research in Astronomy (AURA) Cost Book Evaluation for the Rebaselined ATST/DKIST Project	Audit of re-baselined proposal for ATST/ DKIST telescope	1	NSF is awaiting results of an AURA audit, due 9/30/17, and will decide then whether an estimating system audit is needed.	After 9/30/17	\$11,714,680 ²⁷
14-3-002	9/30/14	Alert Memo: NSF's Management of Costs Proposed for the Large Synoptic Survey Telescope Construction Project	Assessed the reasonableness and integrity of proposed LSST costs	1	NSF is awaiting results of an AURA audit, due 9/30/17, and will decide then whether an estimating system audit is needed.	After 9/30/17	N/A
15-1-012	3/31/15	University of California Berkeley	Incurred cost audit	13	Loss of 25% of resolution staff from FY 15 to the present.	5/31/17	\$1,863,351
15-1-014	3/31/15	University of Wisconsin at Madison	Incurred cost audit	18	Loss of 25% of resolution staff from FY 15 to the present.	6/15/17	\$1,669,588
15-1-020	9/30/15	Stanford University	Incurred cost audit	15	Loss of 25% of resolution staff from FY 15 to the present.	4/30/17	\$337,377
16-1-004	2/11/16	University of Washington	Incurred cost audit	14	Loss of 25% of resolution staff from FY 15 to the present.	7/31/17	\$2,003,109
16-1-019	8/10/16	Performance Audit of Management Fees at Association of Universities for Research in Astronomy (AURA)	Audit to evaluate how AURA tracked and spent management fees	5	NSF provided a proposed resolution 3/31/17, and OIG is reviewing it.	5/31/17	N/A

²⁶ This Detailed Table shows only recommendations that are unimplemented because they are unresolved, either because NSF has not provided corrective action plans, or NSF and OIG have not agreed on the adequacy of the proposed corrective actions. The prior Summary Table includes additional reports/recommendations because it includes the reports with unresolved recommendations shown in this table, plus reports with resolved recommendations that have not yet been implemented.

²⁷ The \$11,714,680 represents funds put to better use (potential cost savings), not questioned costs (potential costs that could be returned to the government).

**REPORTS ISSUED ON OR BEFORE 9/30/16, FOR WHICH NO MANAGEMENT DECISION HAS BEEN MADE BY 3/31/17,
INCLUDING THE AGGREGATE POTENTIAL COST SAVINGS OF THOSE RECOMMENDATIONS**

Report No.	Issue Date	Title	Summary	No. of Recs. w/o Mgmt. Decision	Why Mgmt. Decision Has Not Been Made	Desired Timetable for a Mgmt. Decision	Aggregate Potential Cost Savings
16-1-020	6/16/16	Performance Audit of Management Fees at National Ecological Observatory Network (NEON)	Audit to evaluate how NEON tracked and spent management fees	5	NSF provided a proposed resolution 3/31/17, and OIG is reviewing it.	4/5/17 ²⁸	N/A
16-1-023	9/29/16	University of Michigan	Incurred cost audit	24	Awardee disagreed with proposed management decision, and additional discussion was needed.	5/31/17	\$2,710,238
16-3-001	12/10/15	NSF's Oversight of the Large Synoptic Survey Telescope Construction Project	Assessed potential cost and schedule risks to the project	1	Issue complexity — awardee's unfunded liabilities.	9/30/17	N/A
16-6-008	6/16/16	NSF's Negotiation, Award and Management of Management Fees Awarded to AURA and NEON	Audit of NSF's management-fees' processes, and of fees' use at AURA and NEON	1	NSF did not agree that fees should be based on need for financial viability. Discussions with OIG will continue.	5/31/17	N/A
Total: 11				98			\$20,298,343

²⁸ The five open recommendations for Report No. 16-1-020 were resolved and closed 4/5/17, just after the end of this semiannual period (3/31/17).

INVESTIGATIONS DATA

OCTOBER 1, 2016 – MARCH 31, 2017

INVESTIGATIVE ACTIVITIES	
Referrals ²⁹ to Department of Justice Criminal Prosecutors	4
Referrals to Criminal State/Local Authorities	0
Indictments/Criminal Information	0
Arrests	0
Criminal Convictions/Pleas	1
Referrals to Department of Justice Civil Prosecutors	4
Referrals to Civil State/Local Authorities	0
Civil Settlements/Judgements/Compliance Plans	2
Investigative Reports Issued to NSF Management for Action ³⁰	12
Research Misconduct Findings Issued by NSF	6
Government-wide Suspensions/Debarments/Voluntary Exclusions	6
Administrative Actions taken by NSF ³¹	22
Total Investigative Recoveries ³²	\$2,540,529.14
Substantiated Whistleblower Retaliation	0
Substantiated Agency Interference	0

²⁹ We count referrals of individuals and entities separately.

³⁰ We count only Investigative Reports issued to NSF that include recommendations for administrative action (e.g. findings of Research Misconduct, imposition of Government-wide Suspension or Debarment, or suspension/terminations of awards).

³¹ This includes sanctions related to findings of Research Misconduct and suspension/termination of awards.

³² This includes funds returned to NSF, restitution, fees, and funds put to better use.

CASE STATISTICS

	Preliminary	Investigations
Cases Active at Beginning of Period	2	235
Cases Opened this Period	6	44
Cases Closed this Period	6	61
Cases Active at End of Period	2	218

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. § 552) and the *Privacy Act of 1974* (5 U.S.C. § 552a). During this reporting period:

Requests Received	25
Requests Processed	26
Appeals Received	2
Appeals Denied	1

Response times ranged between 1 day and 32 days, with the median around 14 days and the average around 14 days.

RESEARCH MISCONDUCT (RM) STATISTICS FOR FY 2005 THROUGH FY 2016 AND THE FIRST HALF OF FY 2017

ALLEGATIONS AND INVESTIGATIONS								
FY	RM Allegations Received ³³				RM Investigations Opened ³⁴			
	P	Fab	Fal	Total ³⁵	P	Fab	Fal	Total ³⁶
2005	86	11	3	100	66	3	2	71
2006	67	8	7	82	48	3	5	56
2007	90	8	6	104	67	6	0	73
2008	132	7	10	149	99	5	6	110
2009	108	0	11	119	83	0	10	93
2010	90	4	10	104	70	3	3	76
2011	85	17	15	117	58	15	8	81
2012	96	9	8	113	80	7	5	92
2013	84	10	11	105	80	8	10	98
2014	37	7	5	49	35	7	5	47
2015	64	9	11	84	64	9	11	84
2016	35	10	11	56	24	6	9	39
1st half 2017	24	2	1	27	21	2	1	24
Totals	998	102	109	1209	795	74	75	944

These tables only provide information about allegations that come to our office’s attention and cases we open. Accordingly, they do not reflect the total universe of research misconduct related to NSF proposals or awards, only a subset.

33 Key to allegations: P = Plagiarism; Fab = Fabrication; Fal = Falsification. Allegations were made against both funded and declined NSF proposals, or products that stemmed from NSF awards.

34 We define an investigation as any case in which investigative activity occurred, including case activity defined as “Inquiry” in the RM regulation.

35 Over the reporting period FYs 05–16, we used 3 different methods of capturing allegation data. The periods were: FY05 through FY12; then FY13, when we were granted Statutory Law Enforcement authority, through FY15; and finally, FY16 onward, when we switched to a new Investigative case management system. For this reason, one cannot make a meaningful comparison or identify trends related to allegations across the entire reporting period. A further limitation on the ability to identify such trends arises from the fact that we ran several proactive assessments looking for plagiarism over the years encompassed in the tables, which inflated the number of plagiarism allegations we had in some years. We ran the last such proactive in 2013, but allegations resulting from it were still being identified in 2014.

36 There are a small number of allegations involving RM, which result in Criminal or Civil investigations. We have not included those allegations in this report.

INVESTIGATIVE OUTCOMES³⁷

Total RM Findings					
FY ³⁸	P	Fab/Fal	Multi ³⁹	Total	Included Debarment ⁴⁰
2005	4	3	1	8	2
2006	5	1	0	6	1
2007	11	1	0	12	5
2008	9	3	0	12	5
2009	16	0	1	17	5
2010	9	2	0	11	2
2011	14	3	0	17	5
2012	18	0	0	18	2
2013	13	3	0	16	6
2014	19	7	0	26	7
2015	9	2	0	11	6
2016	11	4	0	15	3
1st half 2017	3	3	0	6	0
Totals	141	32	2	175	49

³⁷ The outcomes reported in this table cannot be linked to the allegations and investigations by FY, due to the varying amount of time it takes to investigate and adjudicate allegations of RM.

³⁸ These data reflect RM findings by NSF in the fiscal year of the finding.

³⁹ “Multi” indicates that an allegation of plagiarism and either fabrication or falsification was substantiated in our investigation. NSF makes a single finding of RM, even if we refer multiple allegations to NSF.

⁴⁰ The debarment action taken by NSF typically lags NSF’s RM finding (debarment is a multi-step process with a separate appeal), but in this display we link the debarment data to the date of the RM finding.



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