

Office of Audits Annual Work Plan Fiscal Year 2019

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

November 19, 2018





AT A GLANCE

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WHY WE CREATED THIS WORK PLAN

The *Inspector General Act of 1978*, as amended, authorizes an Office of Inspector General for the National Science Foundation. By statute, we conduct and supervise independent audits and investigations relating to agency programs and operations and recommend policies that promote effectiveness and efficiency and prevent and detect fraud, waste, and abuse. This work plan lists our required and planned discretionary projects for fiscal year (FY) 2019. However, we may modify the plan to address high priority issues that may arise or to respond to requests from Congress or other stakeholders.

WHAT AUDITS WE HAVE PLANNED

Required projects in the FY 2019 Audit Work Plan include:

- Audit of NSF's financial statements;
- Evaluation of NSF's information security program;
- Audit of NSF's compliance with Federal standards for reporting financial and payment data on a public website;
- Audit of NSF's compliance with the *Improper Payments Elimination and Recovery Act of 2010*;
- Audit of National Science Board compliance with the *Government in the Sunshine Act of 1976*; and
- Review of NSF's fleet utilization, as required by Senate Report 115-139.

Planned topics for discretionary audits include:

- Allocation of appropriations for the construction and operation of major facilities
- Government-owned equipment purchased on NSF awards
- Inappropriate use of electronic devices
- Established Program to Stimulate Competitive Research (EPSCoR)
- Evaluation and Assessment Capability (EAC) Section's Contracted Evaluations
- Program income
- Independent Research and Development Program (follow-up audit)
- Divestment of facilities
- NSF's Oversight of the University-National Oceanographic Laboratory's Financial Practices

In addition, we will perform work in the following two areas: 1) audits and reviews of NSF awardees, including incurred cost and accounting system audits, and desk reviews; and 2) reviews of the quality of single audits. We also include five projects in this plan that we will monitor as potential future audits. These projects are pending additional background research and the availability of resources.

FOR FURTHER INFORMATION, CONTACT US AT 703.292.7100 OR OIG@NSF.GOV.



About the Office of Inspector General

The *Inspector General Act*, as amended in 1988, authorizes an independent Office of Inspector General (OIG) for the National Science Foundation (NSF). We report directly to Congress and the National Science Board (NSB); we do not engage in management activities or program operations. We promote effectiveness, efficiency, and economy in administering the Foundation's programs; detect and prevent fraud, waste, and abuse within NSF or by individuals that receive NSF funding; and identify and help to resolve cases of research misconduct. Our work is divided into two functional areas:

- 1) audits, which assess the functionality of systems, determine compliance with financial standards and grant requirements, and identify ways to improve systems and operations; and
- 2) investigations, which address allegations of serious wrongdoing, such as violations of criminal or civil law or fabrication of data and plagiarism in NSF-funded research.

We conduct audits mandated by legislation, as well as discretionary, risk-based audits of NSF's contracts, cooperative agreements and grants to universities and other research institutions, and internal audits of NSF's programs. These audits help ensure that financial, administrative, and programmatic activities are conducted economically, effectively, and in compliance with applicable laws, rules, and regulations.

Required Projects

We oversee the audit of NSF's annual financial statements and conduct annual audits mandated by the *Federal Information Security Modernization Act of 2014* (FISMA, Pub. L. No. 113-283) and the *Improper Payments Elimination and Recovery Act* (IPERA, Pub. L. No. 111-204), as well as biennial audits mandated by the *Digital Accountability and Transparency Act* (DATA Act, Pub. L. No. 113-101). This year, OIG will also audit NSB's compliance with the *Government in the Sunshine Act of 1976* (Pub. L. No. 94-409), and review NSF's fleet utilization, as required by Senate Report 115-139, *Federal Vehicle Fleet Management*, July 27, 2017.

Discretionary Projects

Our discretionary audit plan is flexible, and we may need to modify it to address high priority issues that arise during the year or to respond to requests from Congress or other stakeholders. Our planned audits will focus both internally on NSF management and externally on how institutions and researchers receiving NSF awards and grants are using those funds. Based on risk, we have selected the following topics in FY 2019 for discretionary audits:

1. Allocation of Appropriations for the Construction and Operation of Major Facilities (In Progress)

As of May 2018, NSF had 23 major multi-user research facilities (major facility), which are state-of-the-art infrastructure for research and education and include telescopes, ships, distributed networks, and observatories. To fund them, including the operations and maintenance of existing facilities, and



construction of new ones, NSF requested about \$1.2 billion in its FY 2019 Budget Request.

Audit objective: Determine whether NSF, as part of its oversight of the construction and operations of major facility projects, has internal controls that ensure awardees allocate their construction and operation expenses to the correct award.

2. Government-Owned Equipment Purchased on NSF Awards (In progress)

According to NSF's FY 2017 Financial Statements, NSF provided funds for Government-owned equipment (GOE) to 26 academic institutions and 22 commercial entities, but only 5 of them reported GOE to NSF. Effective March 1, 2018, NSF updated its award terms for cooperative agreements to include a \$70 million threshold for reporting anticipated GOE to NSF. This audit will identify the Federal and NSF-specific criteria that apply to awardees with GOE and assess NSF's controls for ensuring that awardees comply with those criteria, including tracking, reporting, and disposition requirements.

Audit objective: Determine if NSF has adequate controls to account for GOE purchased with NSF awards.

3. Inappropriate Use of Electronic Devices (In progress)

NSF prohibits the use of IT resources for personal gain, pornography, illegal activities, gambling, material that could be offensive to coworkers, and online auctions. In addition, according to NSF policy, individuals with NSF-issued mobile devices should use them only for work-related purposes, except for limited personal use, and only applications necessary to conduct agency business may be installed on NSF-issued devices.

Audit objective: Determine whether NSF detects, deters, and remedies inappropriate use of electronic devices.

4. Established Program to Stimulate Competitive Research (In progress)

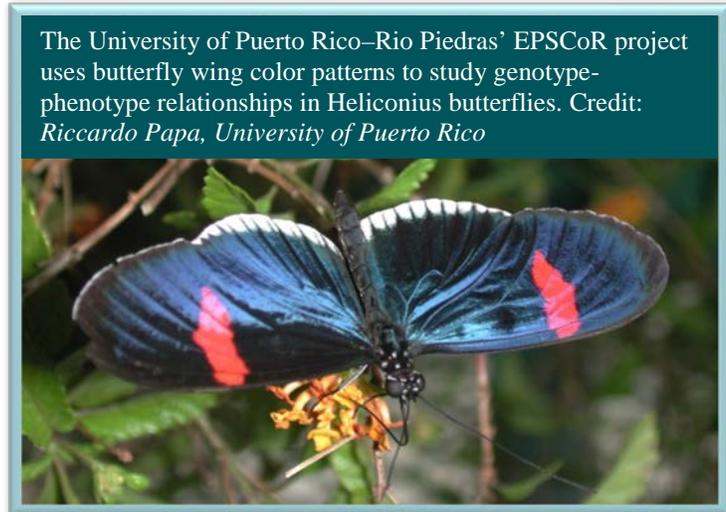
NSF provides Research Infrastructure Improvement awards to targeted jurisdictions through its Established Program to Stimulate Competitive Research (EPSCoR). EPSCoR's mission is to develop research competitiveness in these jurisdictions by strengthening science, technology, engineering, and math (STEM) capability and capacity so that they may become recognized contributors to national and global STEM research. As of October 2018, 26 jurisdictions are eligible for new Research Infrastructure Improvement awards. Areas of risk in the EPSCoR Program include potential conflicts of interest in awardees' processes for the solicitation, review, and selection of projects to fund, as well as awardee compliance with NSF and Federal requirements in the administration of EPSCoR awards.



Audit Objective: Determine if NSF is ensuring awardees are complying with NSF and Federal requirements in the administration of EPSCoR awards.

5. EAC's Contracted Evaluations (In progress)

The Evaluation and Assessment Capability (EAC) Section is in NSF's Office of Integrative Activities. EAC provides NSF with centralized support and resources for data collection, analytics, and the design of evaluation studies and surveys. These activities enable NSF to evaluate the impacts of its investments more consistently, to make more data-driven decisions, and to establish a culture of evidence-based planning and policy-making. EAC uses its own resources and evaluation/monitoring contracts in collaboration with lead-directorates of the programs to conduct evaluations. The FY 2019 Budget Request for EAC is \$3 million.



Audit objective: Determine if EAC's contracted evaluations provide results that can inform decision-making across NSF programs, priorities, and policies.

6. Program Income (Planned)

NSF's *Proposal & Award Policies and Procedures Guide* requires all awardees to report annually whether they had program income and report details about its use. Grantees are required to submit to NSF a Program Income Reporting Worksheet by November 14 each year to report program income or to state they did not have any for the applicable period. If awardees do not comply, NSF can suspend future grant payments.

Audit objective: Determine if NSF is ensuring that awardees are complying with NSF's use and reporting requirements for program income.

7. Independent Research and Development Program (Planned)

NSF's Independent Research/Development (IR/D) Program enables employees and individuals performing temporary service with NSF, such as through *Intergovernmental Personnel Act* (Pub. L. No. 91-648) assignments and Visiting Scientist, Engineer, and Educator appointments, to remain actively involved with their professional research while working at NSF. In 2012, we evaluated the effectiveness of NSF's oversight of the program and found that NSF needed to strengthen controls



over it.¹ NSF agreed with our recommendations, which were implemented and closed as of March 2013. NSF's 2017 *Guide to the Independent Research/Development (IR/D) Program* lists key policies for the program, including that IR/D activities may not normally exceed 50 work days per year, including travel and that participants must not accept, directly or indirectly, any compensation (i.e., honorarium) other than his or her NSF pay or pay specified in an *Intergovernmental Personnel Act* agreement.

Audit objective: Determine the adequacy of NSF's controls over the IR/D program; and determine if participants are complying with the policies in NSF's *Guide to the Independent Research/Development (IR/D) Program*.

8. Divestment of Facilities (Planned)

As of May 2018, NSF supported 23 major research facilities, which individually cost between \$100 million and \$800 million to construct. NSF spends approximately \$1 billion a year to operate these facilities. The *American Innovation and Competitiveness Act of 2017* requires NSF to strengthen its oversight over the full life-cycle of each major multi user research facility project. The Act specifically lists "shutdown" as the last stage in the cycle. NSF considers shutdown/divestment of facilities when the science they enable is of lower priority than the science that could be accomplished with an alternative use of funds.

Audit objective: Determine the adequacy of NSF's processes for identifying, planning for, and managing divestment of major multi user research facilities.

9. Oversight of the University-National Oceanographic Laboratory's Financial Practices (Planned)

The University-National Oceanographic Laboratory System (UNOLS) consists of about 60 academic institutions and national laboratories involved in oceanographic research. One of UNOLS' functions is to schedule scientific cruises efficiently on 18 research vessels (R/V) located at 14 operating institutions. Within UNOLS, NSF owns the



¹ OIG Report No. 12-2-008, *Audit of National Science Foundation's Independent Research and Development Program*, March 16, 2012



R/V *Sikuliaq*, a global-class ship, and the R/V *Oceanus* and the R/V *Endeavor*, ocean/intermediate class ships.

In March 2017, we reported on our audit of the R/V *Oceanus*,² and, in July 2018, we issued an alert memorandum associated with an ongoing audit at Woods Hole Oceanographic Institution.³ In both, we had concerns about UNOLS' Major Overhaul and Stabilization Account (MOSA), a special reserve that research vessel operators are required to fund through award drawdowns, often in advance of actual expenditures.

Audit objective: Determine if NSF's oversight of the UNOLS' fleet financial practices is effective and efficient.

10. Audits and Reviews of NSF Awardees

We will continue to audit NSF awardees at various universities, non-profits, and for-profit entities to detect improper spending or noncompliance with Federal and NSF requirements. In the past, most of our audits of NSF awardees were incurred cost audits, performed by independent public accounting firms (contractors). In FY 2019, we plan to broaden the scope of work our contractors perform to include projects such as surveys and accounting system reviews. In addition, we plan to increase the number of awardee audits OIG staff perform and initiate more limited desk reviews.

11. Review of the Quality of Single Audits

Awardees who spend \$750,000 or more of Federal funds in a year are required to obtain a single audit, which is an important tool for Federal agencies in their oversight of grantees. We will continue to review the quality of the presentation of the reporting package for single audits of NSF awardees for which NSF has audit cognizance or oversight — defined generally as those institutions that receive the majority of their Federal funding from NSF — as well as other awardees when we have concerns regarding the NSF-related information contained in the reports. The purpose of our reviews is to determine whether the audits comply with Federal requirements and professional audit standards. In FY 2019, we plan to conduct desk reviews of approximately 100–120 single audit report packages and conduct quality control reviews of 2 single audits.

Projects We Are Monitoring

We are following the progress of several projects that we do not plan to audit in FY 2019. Pending additional background research and resource availability, we will monitor the following five projects as potential future audits:

² OIG Report No. 17-1-004, *Research Vessel Oceanus at Oregon State University Audit of Incurred Costs Claimed on National Science Foundation Awards for the Period January 1, 2012 to December 31, 2015*, March 23, 2017

³ OIG Report No. 18-6-001, *Alert Memo Regarding Woods Hole Oceanographic Institution Major and Overhaul Stabilization Account*, July 12, 2018



1. Contract for the Logistical Support of the United States Antarctic Program

In December 2011, NSF awarded a 13-year Antarctic support contract to Lockheed Martin Company (Lockheed) to provide logistical support for the United States Antarctic Program. In August 2016, Lockheed's Information Systems & Global Solutions business segment merged with Leidos Holdings, Inc. (Leidos), which currently holds the \$2.1 billion Antarctic support contract — NSF's largest contract. The Defense Contract Audit Agency is auditing the Lockheed contract for January 2014 – August 2016, as well as Leidos' incurred costs from August – December 30, 2016. We plan to assess the results of the DCAA audits and the risks to NSF of the 2016 change in contract holder in FY 2019.



A Commerson's dolphin, or “panda dolphin,” follows the R/V *Laurence M. Gould* as it travels to Palmer Station. Credit: *Cynthia Spence, NSF*

2. Antarctic Infrastructure Modernization for Science

The Antarctic Infrastructure Modernization for Science (AIMS) project will replace major United States Antarctic Program facilities at McMurdo station. Leidos, the current holder of the Antarctic Support Contract, is the primary contractor, and it is expected that it will make one major subcontract for the completion of all AIMS' sub-projects. The entire project is expected to take 8 to 10 years and cost about \$355 million. NSF completed AIMS' Final Design Review in October 2018 and expects to initiate construction in FY 2019. In its budget request for FY 2019, NSF requested \$104.07 million for AIMS, including \$0.37 million for concept and development and \$103.7 million for implementation. NSF plans to use FY 2019 funds to procure initial construction materials and equipment, prepare the site, and start construction. We plan to monitor the progress of AIMS in FY 2019.

3. Regional Class Research Vessels

The Regional Class Research Vessel (RCRV) project is part of a plan to modernize the U.S. Academic Research Fleet. The estimated total project cost for three ships is \$353.97 million over nine fiscal years, and the FYs 2017 and 2018 appropriations have included funding for them. Oregon State University, the lead institution, has executed contracts with Gulf Island Shipyards, Houma, Louisiana, to construct two ships, with the funding for the third pending future appropriations. In FY 2019 we plan to monitor NSF's Oversight of RCRV construction.

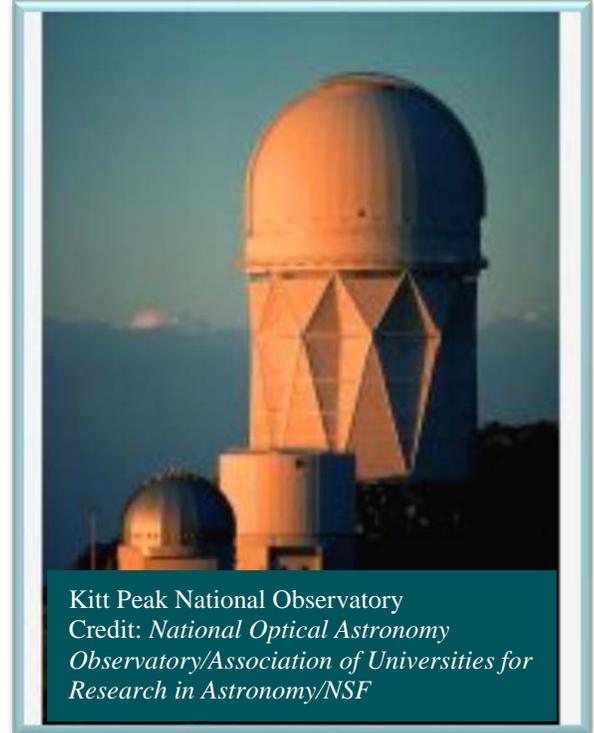


4. National Center for Optical/Infrared Astronomy

In collaboration with NSF, the Association of Universities for Research in Astronomy, Inc. has developed a plan for the National Center for Optical-Infrared Astronomy (NCOA), a matrix-organized center. NCOA would be the structural hub of the U.S. optical-infrared system and is designed as the umbrella organization for the Gemini Observatory, operations of the Large Synoptic Survey Telescope, and programs within the National Optical Observatory. The NSB has approved the formation of NCOA, but a decision by the Office of the Director whether to implement it is not expected until sometime in FY 2019. If the Office of the Director decides to proceed, implementation will likely not occur until FY 2019 or early FY 2020. We plan to monitor the NCOA initiative in FY 2019.

5. NSF's Implementation of Requirements in the *American Innovation and Competitiveness Act*

The *American Innovation and Competitiveness Act of 2017* (Pub. L. No. 114-329) includes more than 35 sections that apply to NSF, and some require NSF to report its actions to Congress. For example, NSF was required to report its strategy for mid-scale projects and its action in overseeing its major facilities to Congress. It was also required to report the costs associated with employing temporary personnel (rotators), its efforts to control those costs, and its response to OIG recommendations that NSF reduce these costs. In FY 2019 we will continue to monitor NSF's compliance with the *American Innovation and Competitiveness Act of 2017*.





Additional Information

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