

# Office of Audits Annual Work Plan Fiscal Year 2024



# At a Glance

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October 30, 2023



### WHY WE CREATED THIS WORK PLAN

The *Inspector General Act of 1978* (5 USC 401-24) authorizes an Office of Inspector General for the National Science Foundation. 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 FY 2024. However, we may change the plan to address higher priority issues that arise or to respond to requests from Congress or other stakeholders.



### PROJECTS

#### Required projects for FY 2024 include:

- Audit of NSF's financial statements
- Audit of compliance with the *Federal Information Security Modernization Act of 2014*
- Review of NSF's Agency Financial Report for compliance with the *Payment Integrity Information Act of 2019*
- Review of NSF's enhanced personnel security program, as required by the *Consolidated Appropriations Act of 2016* (if federal guidance is provided)

#### Ongoing discretionary projects for FY 2024 include:

- Audits of NSF's oversight of Industry-University Cooperative Research Centers (IUCRCs)
- Audits of mid-scale research infrastructure projects
- Audits of subaward management and spending
- Inspection of U.S. Antarctic Program (USAP) occupational health and safety conditions
- Inspection of NSF's sexual harassment prevention response, with USAP focus
- Review of award recipient compliance with NSF's harassment policies

#### Planned projects for FY 2024 include:

- Audit(s) of NSF's and award recipient compliance with research security requirements
- Audit of NSF's use of new types of instruments to fund awards
- Audit of NSF's Cloud Security Controls
- Audit of NSF's compliance with OMB M 22-09, *Moving the U.S. Government toward Zero Trust Cybersecurity Principles*
- Audit of NSF's compliance with Controlled Unclassified Information requirements
- Audit of NSF's management and oversight of the Centers Program
- Audit of NSF's and institutional recipients' oversight of teaching requirements of recipients of scholarships, stipends, and fellowships in the Robert Noyce Teacher Scholarship Program
- Audit of NSF's Regional Innovation Program

We will also audit NSF award recipients and review the quality of single audits. Additionally, we will monitor NSF's management of the new Technology, Innovation and Partnerships Directorate, NSF's processes for the re-competition of the Antarctic Support Contract, and IPAs' supervision of federal employees.

## ABOUT THE OFFICE OF INSPECTOR GENERAL

We provide independent oversight of the National Science Foundation to improve the effectiveness, efficiency, and economy of its programs and operations and to prevent and detect fraud, waste, and abuse. NSF OIG was established in 1989, in compliance with the *Inspector General Act of 1978* (5 USC 401-24). Because the Inspector General reports directly to the National Science Board and Congress, the Office is organizationally independent from the National Science Foundation.

Our work is divided into audits, inspections, and reviews, including audits performed in accordance with *Government Auditing Standards*, to assess the functionality of systems, determine compliance with financial standards and grant requirements, and identify ways to improve systems and operations; and inspections, performed in accordance with *Quality Standards for Inspection and Evaluation*, to assess conformity with requirements; 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.

## ABOUT THIS PLAN

We perform audits, inspections, and other engagements mandated by legislation, as well as discretionary, risk-based engagements of NSF's contracts, cooperative agreements, and grants to universities and other institutions. We also conduct internal engagements of NSF's programs to identify ways to improve systems and operations. These engagements help ensure that financial, administrative, and programmatic activities are conducted effectively, efficiently, and in compliance with applicable laws, rules, and regulations. This work plan lists our required and planned discretionary projects for fiscal year 2024.

## REQUIRED AUDITS AND REVIEWS

We are required by statute to conduct the following audits or reviews in FY 2024:

- Audit of NSF's financial statements
- Audit of compliance with the *Federal Information Security Modernization Act of 2014* (FISMA, Pub L. No. 113-283)
- Review of NSF's Agency Financial Report for compliance with the *Payment Integrity Information Act of 2019* (PIIA, Pub. L. No. 116-117)
- Review of NSF's enhanced personnel security program, as required by the *Consolidated Appropriations Act, 2016* (Pub. L. 114-113, as amended by Pub. L. 116-92), subject to publication of review guidance

## **DISCRETIONARY AUDITS, INSPECTIONS, AND REVIEWS**

Our projects focus internally on NSF management and programs and externally on how award recipients, including institutions and researchers, use NSF funds. Based on risk, we have selected the following discretionary audits, inspections, or reviews for FY 2024.

### **Ongoing projects include:**

#### **Audits of NSF's Oversight of Industry-University Cooperative Research Centers (IUCRCs)**

In 1973 NSF created the Industry–University Cooperative Research Centers (IUCRC) program to foster long-term partnerships among industry, academia, and government. The program is primarily funded by the Computer and Information Science and Engineering directorate and the Engineering directorate. In June 2023, NSF had 264 active IUCRC awards, and for FY 2024, NSF requested \$21.86 million for the program. The audit, which includes conducting audit work at five universities, is an initial step in assessing NSF's management of public-private partnerships. At the conclusion of the IUCRC audits, we may issue a capstone report summarizing common findings and/or identifying promising practices.

#### **Audits of Mid-Scale Research Infrastructure Projects**

In its FY 2024 Budget Request, NSF requested more than \$180 million for mid-scale projects costing between \$4 and \$100 million. These projects include research instrumentation, equipment, and upgrades to major research facilities or other research infrastructure investments. Mid-scale projects address national research priorities, rather than regional- or campus- level priorities, and foster student training and workforce diversity. In FY 2024, we will conclude our audits of four mid-scale recipients' expenditures and internal controls over their mid-scale projects and assess NSF's management of the program.

#### **Audits of Subaward Management and Spending**

NSF award recipients often enter into agreements with other organizations to conduct portions of an award's objective. These agreements, known as subawards, establish a contractual relationship between the prime recipient and subrecipient. Prior NSF OIG audits have identified subawards as a high-risk area that is susceptible to misspending and noncompliance with federal regulations and NSF terms and conditions. In FY 2024, we will conduct multiple audits of NSF award recipients' management of their subawards, and costs claimed on them. At the conclusion of these audits, we may issue a capstone report summarizing common findings and/or identifying promising practices.

## **Inspection of U.S. Antarctic Program (USAP) Occupational Health and Safety Concerns**

We are inspecting occupational health and safety in the USAP, based on concerns raised by USAP personnel during and after our February 2023 site visit to McMurdo Station. The inspection will include, but not be limited to, an assessment of the Antarctic support contractor's performance for ensuring the overall occupational health and safety for the USAP, and a review of policies and procedures related to food safety, fire safety, and waste management.

## **Inspection of NSF's Sexual Harassment Prevention Response, with USAP Focus**

In August 2022, NSF released *Sexual Assault/Harassment Prevention and Response (SAHPR)*, a report NSF commissioned in response to claims of sexual assault and harassment in the United States Antarctic Program (USAP). In FY 2024 we are continuing an inspection of NSF's Sexual Harassment Prevention and Response, focusing on USAP. The objective of this inspection is to assess risks surrounding sexual harassment in USAP, identify NSF's sexual harassment prevention actions, and determine whether there are additional strategies NSF should implement.

## **Review of Award Recipient Compliance with NSF's Harassment Policies**

In FY 2024, we are planning to review award-recipient compliance with NSF's harassment terms and conditions. NSF added an award term and condition, effective October 22, 2018, requiring award recipients to notify the agency "...of any findings/determinations of sexual harassment, other forms of harassment, or sexual assault regarding an NSF funded PI or co-PI." Recipients must also notify NSF:

... if the PI or co-PI is placed on administrative leave or if the awardee has imposed any administrative action on the PI or any co-PI relating to any finding/determination or an investigation of an alleged violation of awardee policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault.

In FY 2024 we plan to assess compliance with these terms and conditions at selected NSF award recipients.

## **Planned projects for FY 2024 include:**

### **Audit(s) of NSF's and Award Recipient Compliance with Research Security Requirements**

NSF's *Proposal and Award Policies and Procedures Guide (PAPPG)* includes provisions and procedures to comply, in part, with research security requirements established by *National Security Presidential Memorandum 33 (NSPM-33)*. NSPM-33 strengthens protections of U.S.

government-supported research and development against foreign government interference and exploitation while maintaining an open environment to foster research discoveries and innovation that benefit our nation and the world. Besides existing conflict of interest guidance, NSF's PAPPG now includes new pre-award and post-award disclosure requirements. Further, NSPM-33 requires research organizations with more than \$50 million per year in total federal research funding to have a research security program. Additionally, the *CHIPS and Science Act of 2022* (CHIPS and Science Act, Pub. L. No. 117-167) enacted additional research security requirements that are applicable to both NSF and its award recipients.

Combined, these requirements establish the primary mechanisms for managing risks related to researchers' potential conflicts, including participation in foreign government talent recruitment programs. If institutions have not enacted policies that meet the requirements of NSPM-33, the CHIPS Act, and the PAPPG, there is a heightened risk to research security. Our audit(s) may evaluate NSF's implementation of NSPM-33, NSF's implementation of the CHIPS and Science Act, NSF's oversight of award recipients' compliance with associated PAPPG requirements, and/or award recipient compliance with other associated requirements.

### **Audit of NSF's Use of New Types of Instruments to Fund Awards**

NSF has long been successful in achieving its mission by funding promising scientific research through grants and cooperative agreements. However, with the newly granted authority to use other transaction agreements by the CHIPS and Science Act, NSF is reevaluating its processes for ensuring the consistent and proper selection of award instruments. Available award instruments include — as appropriate and consistent with law — not only grants, cooperative agreements, and other transaction agreements, but also contracts and other arrangements. Other transaction agreements are subject to federal fiscal law; however, they are not subject to the Uniform Guidance and the Federal Acquisition Regulation, which govern grants, cooperative agreements, and contracts.<sup>1</sup> As such, agencies that use them must develop a rigorous control environment and comprehensive policies, processes, and procedures to ensure proper oversight and accountability over their use. Our audit will determine the extent to which NSF has properly planned for expanding its use of award instruments, including plans for increased staffing, training, and modernizing its contract management system to ensure compliance with federal fiscal law and efficient and effective operations.

### **Audit of NSF's Cloud Security Controls**

Cloud computing is internet-based computing where shared resources, software, and information are available to users "on-demand." NSF uses cloud-based services as the primary platform for its staff and contractors to communicate, collaborate, and store data. Cloud products and services must be certified through the Federal Risk and Authorization Management Program (FedRAMP). This program provides a government-wide, standardized

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<sup>1</sup> See *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, 2 CFR Pt. 200 and Federal Acquisition Regulation, *Subpart 4.6 - Contract Reporting*, respectively.



approach to security assessment, authorization, and continuous monitoring for cloud products and services. Cloud service providers must undergo continuous monitoring to maintain the FedRAMP certification, and NSF is required to address any risks and vulnerabilities that occur during use. Ultimately, NSF is responsible for ensuring its cloud services security settings are appropriately configured for the agency and is monitoring NSF staff use of the cloud service. This audit will determine whether NSF has the appropriate level of security controls for its cloud-based services and applications to protect its data from unauthorized access.

### **Audit of NSF's Compliance with OMB M 22-09, *Moving the U.S. Government toward Zero-Trust Cybersecurity Principles***

On January 26, 2022, the Office of Management and Budget (OMB) issued memorandum M-22-09 to help move the federal government toward Zero-Trust cybersecurity principles. The memorandum provides a federal zero-trust architecture (ZTA) strategy, requiring agencies to meet specific cybersecurity standards and goals by the end of FY 2024. The memorandum's goals are organized using the zero-trust maturity model developed by the U.S. Department of Homeland Security's Cybersecurity & Infrastructure Security Agency (CISA). CISA's zero-trust model describes five complementary areas of effort (pillars): Identity, Devices, Networks, Applications and Workloads, and Data; with three themes that cut across these areas: Visibility and Analytics, Automation and Orchestration, and Governance. Our audit will review NSF's implementation plan and progress towards implementing the ZTA strategy, goals, and objectives outlined in M-22-09. This audit will assess NSF's maturity based on the ZTA maturity model and whether NSF has appropriately prioritized its ZTA efforts.

### **Audit of NSF's Compliance with Controlled Unclassified Information Requirements**

Controlled Unclassified Information (CUI) is any information the government creates or possesses, or that an entity creates or possesses for or on behalf of the government, that is required to be protected under law, regulation, or government-wide policy. This information does not include classified information. Executive Order 13556's Controlled Unclassified Information (CUI) Program standardizes how the executive branch processes unclassified information requiring protection. 32 CFR Part 2002 implements and standardized the CUI program for the executive branch agencies. NSF issued bulletin No. 21-02 to establish the NSF policy for its CUI program in accordance with EO 13556 and 32 CFR Part 2002. National Institute of Standards and Technology (NIST) SP 800-172 specifies enhanced security of CUI associated with a high value asset or a critical program. NIST SP 800-172A provides federal agencies (and non-federal organizations) with procedures to assess the requirements in NIST SP 800-172. Agencies are required to maintain CUI in a controlled environment with adequate controls to protect CUI from unauthorized access or disclosure. This audit will determine NSF's compliance with the CUI requirements.

## **Audit of NSF's Management and Oversight of the Centers Program**

NSF supports a variety of centers programs (centers) that contribute to the Foundation's mission and vision. Centers exploit opportunities in science, engineering, and technology in which the complexity of the research program or the resources needed to solve the problem require the advantages of scope, scale, duration, equipment, facilities, and students. Centers are a principal means by which NSF fosters interdisciplinary research. As of 2022, NSF has funded 103 centers, such as the Artificial Intelligence (AI) Research Institutes, Biology Integration Institutes, Quantum Leap Challenge Institutes, and Spectrum Innovation Initiative Center. NSF created 34 (33 percent) of these centers in 2020 or after. Its FY 2024 Budget Request includes \$716.55 million for centers programs, which is a 97 percent increase over the FY 2022 actual amount. We last audited the centers program in 2007, and as such have not audited these 34 newer centers.<sup>2</sup> This audit will assess NSF's management and oversight of this significant program portfolio.

## **Audit of NSF's and Institutional Recipients' Oversight of Teaching Requirements of Recipients of Scholarships, Stipends, and Fellowships in the Robert Noyce Teacher Scholarship Program**

The Robert Noyce Teacher Scholarship Program provides funding to institutions of higher education to provide scholarships, stipends, and fellowships to recruit and prepare science, technology, engineering, and mathematics (STEM) majors and professionals to become K-12 teachers. The program seeks to increase the number of K-12 teachers with strong STEM content knowledge who teach in high-need school districts. Recipients of Robert Noyce scholarships, stipends, and fellowships must teach for a specified number of years or repay the funding if teaching commitments are not met. This audit will assess NSF's and institutions' oversight of recipients' compliance with teaching commitments.

## **Audit of NSF's Regional Innovation Engines Program**

The flagship of NSF's new Technology, Innovation and Partnerships directorate is the Regional Innovation Engines program (NSF Engines). The goal of Engines is to promote economic growth in regions that have not fully participated in past technological development. Each award recipient, known as an Engine, can receive up to \$160 million for up to 10 years (Track II awards) with a possible 2 years' funding for planning (Track I awards). NSF expects to make five Track II awards in Fall 2023. NSF also plans to develop a Builder Platform to provide the Engines with the access to capital, skills, tools, and networks to enable them to thrive. NSF plans an initial 3-year award to one or more organizations to jumpstart the Builder Platform. In FY 2024 we may review policies and procedures for the operation and implementation of the Engines program and the Builder Platform; audit the award selection process; or audit early-stage management of the initial Phase II awards.

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<sup>2</sup> OIG Report No. 08-2-002, [Audit of NSF Practices to Oversee and Manage Its Research Center Programs](#), November 14, 2007



## **Audits of NSF Award Recipients**

We will continue to audit NSF award recipients at various universities, non-profits, and for-profit entities to detect improper spending or noncompliance with federal and NSF requirements. These audits may focus on areas such as internal controls, accounting systems, or incurred costs.

## **Reviews of the Quality of Single Audits**

Award recipients that spend \$750,000 or more of federal funds in a year must obtain a single audit, which is an important oversight tool. We will continue to review the quality of single audits of NSF award recipients for which NSF has audit cognizance or oversight — defined generally as those institutions that receive the majority of their federal funding from NSF. We will also review other award recipients when we have concerns about the NSF-related information in their single audit reports. Our reviews assess whether the audits followed federal requirements and professional audit standards. In FY 2024, we plan to conduct desk reviews of approximately 90 single audit report packages and conduct quality control reviews of two single audits.

# **PROJECTS WE ARE MONITORING**

## **NSF's Management of the New Technology, Innovation and Partnerships Directorate**

On March 16, 2022, NSF announced the creation of the new Technology, Innovation and Partnerships directorate to support use-inspired research and development, to bring new technologies to market rapidly, and to address major economic and social challenges. The CHIPS and Science Act, which formally authorized the directorate, increased its annual budget to \$4.1 billion by FY 2027. In FY 2024, we will monitor the directorate as it addresses practical, logistical, and personnel challenges of establishing a new directorate, absorbing established programs; and creating controls over and managing its developing portfolio.

## **NSF's Processes for the Re-competition of the Antarctic Support Contract**

On March 31, 2025, the current Antarctic Support Contract (ASC), for the USAP expires. The ASC, NSF's largest contract, has a total obligated amount of more than \$2.3 billion and a period of performance of more than 13 years. In FY 2024, we will monitor the re-competition process for the new contract and may issue ad hoc notification memoranda during the year to alert NSF to any concerns about the re-competition as they arise.

## **IPAs' Supervision of Federal Employees**

A defining characteristic of NSF's human capital management strategy is its use of temporary staff, which includes both those brought on through authority provided by the

Intergovernmental Personnel Act, known as IPAs, and those employed through NSF's own Visiting Scientist, Engineer, and Educator (VSEE) program. These individuals — referred to as IPAs or rotators — bring fresh perspectives from all fields of science and engineering to support NSF's mission. NSF assigns some IPA staff, who are not federal employees, as supervisors, including some at the equivalent of a Senior Executive Service position in the federal government, as we have previously reported.<sup>5</sup> However, in response to a June 2022 U.S. Government Accountability Office report, the U.S. Office of Personnel Management updated its guidance regarding non-federal employees' ability to perform supervisory functions. In FY 2024, we may conduct oversight work on NSF's compliance with OPM's revised guidance regarding non-federal employees' ability to perform supervisory functions.

## CONNECT WITH US

For further information or questions, please contact us at [OIGpublicaffairs@nsf.gov](mailto:OIGpublicaffairs@nsf.gov) or 703.292.7100. Follow us on Twitter at [@nsfoig](https://twitter.com/nsfoig). Visit our website at <https://oig.nsf.gov/>.

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