

OFFICE OF INSPECTOR GENERAL (OIG)**\$15,200,000**
+\$40,000 / 0.3%

The Appropriations Act that funds the National Science Foundation (NSF) provides for a separate appropriation for NSF's Office of Inspector General (OIG). Accordingly, this FY 2017 Budget Request identifies the resources needed to support OIG, including amounts for personnel compensation and benefits (PC&B), contract services, training, travel, supplies, materials, and equipment.

The FY 2017 Budget Request for OIG is \$15.20 million, an increase of \$40,000 from the FY 2016 Appropriation of \$15.16 million.

Office of Inspector General Funding

(Dollars in Millions)

| | FY 2015 Actual | FY 2016 Estimate | FY 2017 Request | Change Over FY 2016 Estimate | |
|------------------------------|-------------------|---------------------|--------------------|---------------------------------|-------------|
| | | | | Amount | Percent |
| Total, OIG | \$14.60 | \$15.16 | \$15.20 | \$0.04 | 0.3% |
| Full-Time Equivalents (FTEs) | 68 | 75 | 68 | -7 | -9.3% |

Appropriations Language

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, ~~\$15,160,000~~, \$15,200,000 of which \$400,000 shall remain available until September 30, ~~2017~~.
(*Science Appropriations Act, 2016.*)

**Office of Inspector General
FY 2017 Summary Statement**

(Dollars in Millions)

| | Enacted/ Request | Unobligated Balance Available Start of Year | Unobligated Balance Available End of Year | Adjustments to Prior Year Accounts | Transferred | Obligations Actual/ Estimates |
|---------------------------------|---------------------|--|--|--|-------------|-------------------------------------|
| FY 2015 Appropriation | \$14.43 | \$0.40 | -\$0.17 | -\$0.06 | - | \$14.60 |
| FY 2016 Estimate | 15.16 | 0.17 | | | - | 15.33 |
| FY 2017 Request | 15.20 | | | | - | 15.20 |
| \$ Change from FY 2016 Estimate | | | | | | -\$0.13 |
| % Change from FY 2016 Estimate | | | | | | -0.8% |

Totals may not add due to rounding.

Explanation of Carryover

Within the **Office of Inspector General (OIG)** two-year account, \$171,000 was carried over into FY 2016.

- Office of the Inspector General
 - Amount: \$171,000

- Reason: Funds are expected to be used to procure audit and forensic contracts. The selection of awards and institutions to be audited will require careful preparation and is subject to changing circumstances and new information that may require additional time to process.
- Anticipated Obligation: FY 2016 Quarter 2

OIG Responsibilities

In February 1989, the National Science Board established OIG pursuant to the Inspector General Act Amendments of 1988. The statute confers on OIG the responsibility and authority to:

- Conduct and supervise audits of NSF programs and operations, including organizations that receive NSF funding;
- Conduct investigations concerning NSF programs and operations, including organizations that receive NSF funding;
- Evaluate allegations of research misconduct, such as fabrication, falsification, or plagiarism, involving individuals who participate in NSF-funded activities;
- Provide leadership, coordination, and policy recommendations for:
 - Promoting economy, efficiency, and effectiveness in the administration of NSF programs and operations, and
 - Preventing and detecting fraud and abuse in NSF programs and operations; and
- Keep both agency management and Congress fully and currently informed about problems, recommended corrective actions, and progress being made in improving the management and conduct of NSF programs, to include the issuance of a Semiannual Report to Congress.

OIG performs audits of grants, contracts, and cooperative agreements funded by NSF's programs. The office also conducts audits and reviews of both internal agency programs and external organizations that receive NSF funding to ensure that financial, administrative, and programmatic activities are conducted economically, effectively, and in compliance with agency and federal requirements. OIG also oversees the audit of NSF's annual financial statements, which are required for all NSF accounts and activities by the Government Management Reform Act of 1994. OIG also audits financial, budgetary, and data processing systems used by NSF to prepare the financial statements. In addition, the office performs multi-disciplinary reviews – involving auditors, attorneys, management analysts, investigators, scientists, and others as needed – of financial, management, and program operations to identify broader problems and highlight best practices.

OIG investigates possible wrongdoing by organizations and individuals who seek or receive NSF funds such as those who submit proposals to, receive awards from, conduct business with, or perform work for NSF. Allegations of research misconduct by NSF recipients are also investigated. OIG assesses the validity and seriousness of all the allegations it receives to determine whether or not to pursue legal or administrative action. When appropriate, the office refers the results of these investigations to the Department of Justice or other authorities for criminal prosecution, civil litigation, or resolution via settlement agreements and institutional compliance plans. OIG refers some cases to NSF for administrative resolution and when indicated will recommend modifications to agency policies and procedures to ensure the integrity of NSF's business systems. The Office works closely with institutions on their internal research misconduct investigations and regularly engages in activities aimed at preventing and detecting fraud, waste, and abuse; and at raising the awareness of funded researchers, institutional administrators, and agency employees about OIG's role and NSF's rules and expectations.

Because diverse skills, training, and experience are necessary to oversee NSF's many programs, the OIG staff includes scientists, attorneys, certified public accountants, criminal investigators, management analysts, evaluators, and information technology specialists. The subjects of investigations, audits, and

other reviews are also varied and may include: an individual grant recipient or institution; a broad program or functional area of NSF; or a project involving multiple disciplines or entities. In addition, OIG utilizes contractors to perform work when it is cost effective, or when it lacks the necessary expertise in-house, as in the case of the annual review of the agency’s financial systems controls and its compliance with the Federal Information Security Management Act (FISMA).

Office of Inspector General
Personnel Compensation and Benefits and General Operating Expenses
(Dollars in Thousands)

| | FY2015 Actual | FY 2016 Estimate | FY 2017 Request | Change Over FY 2016 Estimate | |
|---|------------------|---------------------|--------------------|---------------------------------|-------------|
| | | | | Amount | Percent |
| Personnel Compensation and Benefits ¹ | \$11,222 | \$11,916 | \$12,010 | \$94 | 0.8% |
| Travel & Transportation of Persons | 263 | 270 | 295 | 25 | 9.3% |
| Advisory & Assistance Services ² | 2,881 | 2,498 | 2,413 | -85 | -3.4% |
| Rent | 55 | 77 | 82 | 5 | 6.5% |
| Information Technology | 12 | 197 | 195 | -2 | -1.0% |
| Communications, Supplies, Equipment & Other Services | 170 | 202 | 205 | 3 | 1.5% |
| <i>Training</i> | 97 | 150 | 120 | -30 | -20.0% |
| <i>Other</i> | 73 | 52 | 85 | 33 | 63.5% |
| Total, OIG | \$14,603 | \$15,160 | \$15,200 | \$40 | 0.3% |
| Full-Time Equivalents | 68 | 75 | 68 | -7 | -9.3% |

Totals may not add due to rounding.

¹ Includes projected 2017 pay raise of 1.6 percent, as well as anticipated within grade and promotion increases.

² Includes the costs of the annual financial statements audit and the outsourcing of contracting services.

An FY 2017 appropriation of \$15.20 million will enable OIG to carry out the core elements of its mission and maintain a workforce of about 68 FTEs, the same number employed in FY 2015. However, sharply rising personnel and contract costs will limit investments in training, technology, a forensic IT program, and other key areas.

Recent budget cuts have impacted the number of audits and investigations performed, as our workforce declined 17 percent from 78 staff at the start of FY 2013 to just 65 during July 2014. During FY 2015, we were able to add 4 professional staff to program areas where workload imbalances are of greatest concern. As our current workforce ages, new hires are critical to revitalizing our workforce and will be carefully vetted not just for technical skills but also for their readiness to assume future management responsibilities. In FY 2017, we estimate that 29 percent of our staff (mostly managers) will be eligible to retire.

Between FY 2013 and FY 2015, OIG has sustained an increase in its average cost per FTE of about 13 percent, as raises and awards have resumed, the cost of benefits has increased, and professionals such as lawyers, investigators and CPAs replace departing administrative staff who were less expensive. While management understands that returning OIG staffing levels to what they were before FY 2013 may not be realistic, we believe that being able to maintain a workforce of at least 68-70 FTEs is necessary to effectively perform our mission.

OIG has streamlined its administrative unit, electing to allocate as many FTEs as possible for audits and investigations. OIG’s priorities in the near term are to increase the number of audits and investigations

conducted from the low level of production that occurred during sequestration in FY 2013. To achieve this, OIG will: assure that the necessary number of audit contracts can be procured and that there are an adequate number of internal audit staff to monitor them; and continue rebuilding the civil/criminal investigative unit, which has lost a number of investigators to mandatory retirement. Investments in equipment and technology upgrades (e.g., expansion of our data analytics capability for Audits and Investigations) will continue to be pursued as funds allow. Funding for preventive activities, such as educating researchers at regional conferences about rules and requirements associated with federal grants, as well as other outreach efforts to stakeholders, will continue at a slightly reduced level. Other costs includes a resumption of the obligation to pay for Council of Inspectors General for Integrity and Efficiency of \$44,000.

Office of Audits (OA). The Office of Audit (OA) expects to see a significant increase in its costs in FY 2017 as it faces challenges to sustaining its current workload. Audit work required by statute has grown in recent years from auditing NSF's financial statements and compliance with the Federal Information Security Management Act (FISMA), to reviewing compliance with new legislation, such as the Improper Payments Elimination and Recovery Act (IPERA), and the Digital Accountability and Transparency Act (DATA Act). These new audit responsibilities will require additional staff hours and funding for contractors. In FY 2015, the cost of the Financial Statements and FISMA contract was about \$900,000. That contract is being re-competed in FY 2016, and the cost is expected to increase by as much as 33 percent due to the new IPERA and DATA Act audit work.

The increased costs for the OIG's mandatory work will reduce the portion of OA's FY 2017 budget available for discretionary audits, which target high-risk programs and institutions. The universe of potential discretionary audits is large, consisting of about 2,000 institutions and 11,000 new awards each year. Historically, the OA audit plan includes about 40 discretionary audits. To perform these audits, OA utilizes the services of the Defense Contract Audit Agency (DCAA), Independent Public Accounting (IPA) firms, and in-house audit staff. The 2016 National Defense Authorization Act, which prohibits DCAA from accepting work from non-defense agencies, is also likely to increase audit costs as the work given to DCAA is replaced with private sector contracts.

Much of our discretionary audit work recently has focused on NSF's management of its large facilities. NSF will spend hundreds of millions of dollars in coming years on projects such as the National Ecological Observatory Network (NEON), Large Synoptic Survey Telescope (LSST), Ocean Observatories Initiative, and the Daniel K. Inouye Solar Telescope. Strong oversight is crucial to ensuring that these projects are financially sound and properly managed.

To cite just one example, NEON is in the midst of constructing a \$433.80 million facility. Beginning in 2011, auditors identified serious flaws in NEON's proposed construction budget and issued three inadequacy memos along with an adverse opinion on the proposed budget. Within the proposal, OIG found \$154 million in questioned and unsupported costs (approximately 36 percent of the total budget). Our warnings about NEON's finances were validated in June 2015 when NEON management informed NSF that the project was facing a potential cost overrun of \$80 million.

And NEON is not the only high-risk construction project underway. In 2014, we issued an alert to NSF regarding proposed costs for its \$467.70 million LSST project. We found that NSF did not have sufficient information to establish a reasonable basis for the cost of this project and could not justify costs for major categories such as salaries and equipment, the same concerns earlier expressed about NEON. Construction on the LSST project is underway; about \$44 million has been spent, and we have already identified cost and schedule risks. We are preparing an alert on NSF's oversight of the project to provide feedback to the agency while there is still time to prevent cost overruns, schedule delays, and other problems, both on LSST and its other large facility projects.

In addition, during FY 2017 NSF will be in the final crucial stages of completing its move to a new headquarters in Alexandria, VA. OIG has played an important role in overseeing this transition and has made valuable recommendations to improve efficiency and effectiveness. The need for such oversight will increase dramatically as the move date draws closer, thus requiring a sustained commitment of in-house audit resources and the possible use of a contracted expert to assist with technical issues.

OA will continue its strategy to maximize the effectiveness and efficiency of its audit practices by selecting auditees and audit programs with a two-phase analytics methodology. In Phase I, OA will use data analytics to identify the risk of misuse of NSF funds on all open awards. During this exercise, the Office will mine NSF and other databases for known fraud indicators such as suspicious awardee drawdowns, and institutions that have been suspended or debarred, in order to develop a list of auditees. In Phase II, OA will use data analytics to analyze institutions' general ledger and sub-ledger data to identify anomalous transactions for testing and/or further research to determine if award funds are being misspent. Since OA began using data analytics for audit planning in FY 2012, it has been able to significantly increase audit coverage by reviewing 100 percent of transactions with automated processes. Each year the Office also refines its risk assessment model by continually adjusting factors and weights to enhance its ability to identify problematic or questionable costs.

OA has altered its operations model in recent years to increase efficiency in two ways. It has: 1) reduced the scope of work for IPAs by performing some of the data analytics for them, and 2) procured fewer IPA audits by developing in-house grant-audit capabilities. These two strategies each have the potential to reduce audit costs. The first strategy draws on the experience of OA's staff in auditing NSF grants to identify the riskiest transactions in the data. OA then provides the data sets with identified risk areas to the IPA firms to perform the transaction testing on site at the audited institutions. Using this combination of in-house staff and contracted audit support leverages OA's knowledge of NSF and data analytics, making it less critical to employ experienced grant auditors to perform the fieldwork.

The second strategy involves developing grant and cooperative agreement audit capability among OA staff. To accomplish this, the Office pairs its data analytics team with experienced in-house audit staff to develop and execute audit programs. The data analytics team identifies the highest risk areas at an institution, and the OA auditors perform audit fieldwork to test these areas. The Office is also including newer OA staff as trainees in this process to help them develop their grant-audit knowledge and capabilities. Both strategies aim to save money by reducing the use of contracted audits, while increasing staffing flexibility and helping to address quality issues that OA has experienced with some contractors.

Office of Investigations (OI). Over the years, investments in OIG's Office of Investigations have consistently yielded an excellent return for the government. Over the last ten years, our investigative activities have resulted in well over \$40,000,000 in recoveries and return of funds put to better use. In FY 2015 we recovered \$7.60 million in government funds, up 183 percent from FY 2014. In addition to recoveries of funds and civil and criminal convictions, our cases frequently produce both financial settlements for institutional fraud that include compliance agreements aimed at strengthening internal controls and systems to better protect federal funding in the future.

Since the beginning of FY 2013, however, OI has sustained a net loss of three FTEs or ten percent of its investigative staff due to attrition. These individuals were among our most experienced, knowledgeable, and skilled investigators. Unable to afford filling these positions, we instead increased the number of active cases carried by each criminal and research misconduct investigator by 20 percent in order to handle our inventory of open investigations. This resulted in delays in completing investigations, presenting cases to U.S. Attorneys for prosecution, and issuing reports of investigation to NSF to resolve instances of personnel misconduct and systemic weaknesses identified in the reports. This was particularly detrimental in the area of civil/criminal investigations. While we have concluded a significant number of cases and returned our

caseload per criminal investigator to previous levels, the overall number of open cases has by necessity decreased, as we adjust to a more sustainable investigative caseload.

Staff shortages have also delayed development and implementation of the OI electronic case management system, eLOC. Unable to retain a long-sought forensic IT specialist for OI, we substituted a staff investigator to serve as subject matter expert and procurement development advisor for this initiative, which has further exacerbated workload imbalances. Finally, operating with reduced investigative staff has required that we be more selective in the issues we pursue to full investigation in an effort to conserve and prioritize our scarce resources. While our performance measured in terms of recoveries and funds put-to-better-use remains high, our ability to maintain that momentum over time depends upon establishing and maintaining staffing levels that are able to carry a larger caseload.

Budget cuts have also impaired our efforts to aggressively address the increase in financial frauds within the SBIR/STTR programs, an area of continuing special Congressional concern. New Small Business Innovative Research (SBIR) Program investigations have declined from 33 in calendar year 2012 to 24 in 2014, and 22 in 2015 due to the lack of available investigative staff. The establishment of the SBIR Investigative Working Group opened an effective dialogue within the OIG community about the pursuit of SBIR fraud, and resulted in a higher profile for such cases and numerous joint investigations. Our office has helped lead this multi-agency effort since its inception, and sustaining a high level of commitment to combating SBIR fraud has been a top priority.

OIG Support Functions. Office-wide support functions (apart from information technology) fall under the executive leadership of an Assistant Inspector General (who also serves as OIG's Legal Counsel) and are encompassed within two operating units. The Immediate Office consolidates a number of functions that have historically worked together, but which were formerly aligned under the direct supervision of the Inspector General -- legal, legislative/congressional, and external affairs (including public/media contacts). The staff also actively supports government-wide projects in which NSF OIG has taken a leadership role, including those focused on increasing the use and effectiveness of suspension and debarment remedies to protect taxpayer funds; preventing and detecting fraud, waste, and abuse in the SBIR Program; and providing broad support to the Inspector General in her role as Vice Chair of Council of Inspectors General for Integrity and Efficiency (CIGIE).

The Office of Management is responsible for performing strategic planning/budgeting, procurement, human resources, and administrative support and is currently comprised of just three staff. Organizational alignment of the two units under a single executive subordinate to the IG has saved money and afforded some synergistic benefits to the organization. To assure that there are adequate resources available for our core mission of audits and investigations, support functions within the Office of Management and elsewhere across the OIG have been streamlined to the maximum extent practical.

An Assistant Counsel was hired in FY 2015 to strengthen office-wide legal support. Besides providing comprehensive legal advice, counsel, and critical analysis to the IG and all OIG divisions, the legal activity also administers financial disclosure requirements for OIG staff; performs certain functions related to the Freedom of Information and Privacy Act; represents the office in external forums; and also enables the office to engage in proactive efforts (such as training and routine reviews) to recognize and deal with legal concerns as early as possible.

Information Technology. Spending on hardware, software, and IT services in FY 2017 is expected to remain relatively level. OIG plans to reduce its costs for computers and printers in FY 2017 by lengthening their replacement cycle, phasing out the use of desktop printers and relying more on network printers. Costs to license existing software, which totaled about \$84,400 in FY 2015, are fixed in the short term but their

use is reevaluated each year. License fees are required to receive the periodic software updates and assistance that are necessary to sustain audit and investigations operations.

IT service costs in FY 2015 of about \$44,000 included network printer maintenance, cellular service for mobile devices, and internet service for the OIG Denver office. In FY 2017, OIG hopes to realize some modest savings by reducing the cost of its cellular service through more efficient management of its cellular devices and services.

Preventive initiatives. Budget considerations have forced OIG to reduce many of its initiatives aimed at fulfilling its core mission to prevent fraud, waste, and abuse. These include our efforts to address the issues underlying: 1) a general erosion of research integrity, as evidenced by a threefold increase in allegations in the past decade, and studies indicating that 25 to 30 percent of scientists engage in questionable research practices; 2) the increasing number of allegations of serious misconduct committed by scientists from other countries who may not understand U.S. rules and procedures; and 3) SBIR program fraud.

In the past, our staff has played a key role in educating the agency's stakeholders on matters related to grant fraud and research misconduct. OIG's proactive efforts help to assure the integrity of federally-funded research by promoting effective oversight of NSF-funded activities *at the institutional level*. We ensure the research community understands the civil, criminal, and administrative ramifications of running afoul of requirements incurred in conjunction with receipt of federal funds. In addition, OI's proactive program analysts have been very productive in generating leads that result in substantive new cases, and identifying systemic problems that affect NSF's grant administration process. Another important element of our proactive program is the use of database analysis tools. Their use has enabled OI to identify prospective NSF awardees that are high-risk recipients of federal funds based on their past misconduct or questionable practices.

However, budget constraints have required us to divert resources from our proactive program to ensure that audits and investigations are adequately funded, and prevented us from making full use of available technology to improve timely identification of high-risk grant applicants and systemic weaknesses. Our ability to continue a robust preventive program of proactive investigative reviews and effective outreach depends on staffing and travel resources, especially in light of our other urgent audit and investigative priorities, as set forth above. Robust interaction between OIG and the research community not only helps to promote research integrity and financial accountability, but also provides our investigators and auditors with valuable insights into the needs and concerns of the institutions and researchers.

Finally, along with the progress OIG has made in the use of data analytics to strengthen both its audit and investigative operations comes requests to share information about these new technologies and practices with the research community and other Federal agencies. Our outreach efforts aim to educate institutions about the advanced analytics we employ to: 1) provide insight on system and support requirements necessary to complete audit engagements in an efficient manner; and 2) teach institutions to improve business intelligence and assure accountability for Federal funds. In addition, many Federal audit offices have expressed interest in learning about and introducing analytics in their own programs to uncover additional risks. OIG has complied with these requests to the degree possible given our budgetary constraints. We anticipate a continuing – and increasing – need for such support.

