

OFFICE OF INSPECTOR GENERAL (OIG)**\$15,160,000**
+\$730,000 / 5.1%

The Appropriations Act that funds the National Science Foundation provides for a separate appropriation for NSF's Office of Inspector General (OIG). Accordingly, this FY 2016 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 2016 Budget Request for OIG is \$15.16 million, an increase of \$730,000 from the FY 2015 Estimate of \$14.43 million.

Office of Inspector General Funding

(Dollars in Millions)

	FY 2014 Actual	FY 2015 Estimate	FY 2016 Request	FY 2016 Request Change Over FY 2015 Estimate	
				Amount	Percent
Total, OIG	\$13.84	\$14.43	\$15.16	\$0.73	5.1%
Full-Time Equivalents (FTEs)	67	73	75	2	2.7%

Appropriations Language

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, ~~\$14,430,000~~, \$15,160,000, of which \$400,000 shall remain available until September 30, ~~2016~~.2017.

**Office of Inspector General
FY 2016 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 2014 Appropriation	\$14.20		-\$0.40	-\$0.04	\$0.08	\$13.84
FY 2015 Estimate	14.43	0.40			-	14.83
FY 2016 Request	15.16				-	15.16
\$ Change from FY 2015 Estimate						\$0.33
% Change from FY 2015 Estimate						2.2%

Totals may not add due to rounding.

Explanation of Carryover

Within the **Office of Inspector General (OIG)** account, \$400,000 in two-year funds was carried over into FY 2015. Most of these funds are expected to be used to procure audit and forensic contracts during the second quarter of FY 2015. 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.

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;
- Issue semiannual reports to the National Science Board and Congress to keep them informed about problems, recommended corrective actions, and progress being made in improving the management and conduct of NSF programs.

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. When appropriate, 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 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, and audits financial, budgetary, and data processing systems used by NSF to prepare the financial statements.

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 work for NSF. The office also investigates allegations of research misconduct by NSF recipients. 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 other cases to NSF for administrative resolution and when needed will recommend modifications to agency policies and procedures to assure 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, investigators (including special agents), 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 their compliance with the Federal Information Security Management Act of 2014. OIG will maintain its

oversight of the few American Recovery and Reinvestment Act (ARRA) awards that remain active in FY 2016, as well as the many that have expired, as the last of the ARRA awards that received a waiver near completion.

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

	FY2014 Actual	FY 2015 Estimate	FY 2016 Request	FY 2016 Request Change Over FY 2015 Estimate	
				FY 2015 Estimate Amount	Percent
Personnel Compensation and Benefits ¹	\$10,296	\$11,258	\$11,916	\$658	5.8%
Travel & Transportation of Persons	150	250	270	20	8.0%
Advisory & Assistance Services ²	3,204	2,612	2,664	52	2.0%
Communications, Supplies, Equipment & Other Services	190	310	310	-	-
<i>Training</i>	75	160	150	-10	-6.3%
<i>Other</i>	115	150	160	10	6.7%
Total, OIG	\$13,840	\$14,430	\$15,160	\$730	5.1%
Full-Time Equivalents	67	73	75	2	2.7%

Totals may not add due to rounding.

¹ Includes projected 2016 pay raise of 1.3 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 2016 budget of \$15.16 million will enable OIG to fill and maintain many of the 13 positions that became vacant since FY 2012 and continue effective oversight of NSF's programs and riskiest awards. Recent budget cuts have impacted the number of audits and investigations performed, as the office's workforce declined 17 percent, from 78 FTE at the start of FY 2013 to 65 in July 2014. OIG is in the midst of hiring as many as nine additional staff in order to return production closer to previous levels. In addition, as the current workforce ages, new hires are critical to revitalizing the organization and will be carefully evaluated not just for technical skills but for succession planning purposes. OIG estimates 29 percent of staff (mostly managers) will be eligible to retire in FY 2016.

During FY 2014, OIG has observed an increase in its average cost of an FTE, as raises and awards have resumed, and higher paid professionals such as lawyers, investigators, and CPAs replace lower paid departing administrative staff. In FY 2016, OIG expects to support 75 FTEs. Our office intends to be judicious in adding new staff in order to preserve future budget flexibility, and will forego returning OIG staffing levels to what they were before FY 2013.

OIG has streamlined its administrative unit, electing to allocate as many FTEs as possible for audits and investigations. Priorities in the near term are to increase the number of audits and investigations conducted. To achieve this goal, OIG will ensure that the necessary number of audit contracts can be procured to rebuild the civil/criminal investigative unit, which has lost a number of investigators to mandatory retirement. Investments in equipment, technology upgrades (e.g., expansion of our data analytics capability for audits and investigations), and the addition of an IT specialist to support these initiatives 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 reduced level.

Office of Audits (OA). Over the past two years, OA has been implementing a plan to improve both the efficiency and effectiveness of its external audits in concert with NSF's growing number of grants, contracts, and complex cooperative agreements. OA is employing enhanced technical capabilities and data analytics to improve oversight of NSF funds by 1) better targeting our audits toward the riskiest awardees and 2) more efficiently screening and analyzing large volumes of data. Using analytics, we have increased the number of transactions we are capable of reviewing from dozens to thousands and improved our ability to identify problematic or questionable costs.

Funding will enable OA to hire one performance auditor, and invest approximately \$300,000 more toward procuring additional contracted audits. The performance audit unit has been operating without its full complement of staff for several years due to attrition. We estimate that the addition of an FTE will enable OIG to perform one to two additional audits of critical agency programs during FY 2016, including the U. S. Antarctic Program (USAP), which has come under increased scrutiny with the transition of the support contract and the issuance of the 2012 blue ribbon panel report on the programs' logistical challenges. The performance audit unit provides oversight of NSF's management of its programs, monitors the agency's administration of its \$7.0 billion budget, and responds to important federal audit priorities. These include assessments of the efficiency and effectiveness of 1) NSF's oversight of grant and contract awardees and 2) the agency's use of financial and personnel resources.

Since FY 2012, OA has lost eight FTEs, representing 24 percent of its workforce, including those with significant experience in grant audits and data analytics that are difficult to replace. The loss of resources has reduced completed audit work from 37 reports in FY 2011 to only 18 in FY 2014, a 51 percent reduction. OA is currently in the process of replacing six of the eight staff it has lost. But despite past staffing challenges, OA's transition to its new business model has already produced promising results. Audits employing this new approach produce a more robust and accurate analysis of federal award expenditures, while reducing the actual cost of planning and conducting the audit. In addition, automated techniques provide a level of transparency of recipient spending that was previously unattainable using traditional audit techniques. Utilizing set rules to perform knowledge discovery on the use of federal funds, data analytics provides insight into determining whether 1) costs were incurred during or after the award period; 2) grant expenditures charged to an award were in the approved budget; and 3) spending increases significantly at the very end of an award period (a fraud-related indicator).

While at present OA continues to utilize both contractors and OIG staff in a variety of roles to conduct audits of awardee institutions, OA is moving more toward a hybrid approach to external audits. The new business model requires in-house staff to conduct the analytics, drawing on their experience in auditing NSF grants to identify the riskiest transactions in the data. OA then provides the questionable data sets to our contractors to go on site at the institutions and perform the transaction testing. Using this combination of in-house staff and contract support maximizes efficiency and avoids the problem of finding and hiring grant auditors with experience in data analytics.

OA is also building grant and cooperative agreement audit capability among its staff to address the riskiest awards. Under this approach, OA combines data analytics examiners with experienced OIG audit staff to test and surface activity that would be of the greatest concern to NSF. The three approaches described provide us with the maximum amount of flexibility and also help to address quality and timeliness issues that we have experienced while using some contractor staff. As one of the first OIGs to adopt these new methods, the office is engaged in teaching others within the Inspector General community how to use analytics to improve the effectiveness of their audits.

Additional funds will also be used to increase the number of contracted audits. The funds will enable OIG to procure and oversee an estimated three or four additional audits, restoring OIG to the level of contracted audits performed over the past three years. Along with analytics, the use of contractors is vital

to the oversight of NSF awards, as it allows for the auditing of larger contracts, cooperative agreements, and grants, such as the multi-year support contract for the U.S. Antarctic Program (USAP). NSF obligates over \$330 million per year in Antarctic research awards and associated support contractors. OIG has recently undertaken a comprehensive review and risk assessment of this key NSF program and has committed to expanding its oversight. The review identified a dozen medium- and high-risk areas, such as health and safety, information technology, and deferred maintenance that warrant audit attention. Audits of NSF's IT infrastructure are also part of the office's audit plan, as the agency moves its applications and resources into cloud computing, converts its financial system, and migrates its internet service into the Trusted Internet Connection (TIC).

Office of Investigations (OI). Over the years, investments in OIG's Office of Investigations have yielded an excellent return for the government. In addition to civil and criminal convictions, OI cases frequently produce both financial settlements for institutional fraud and compliance agreements aimed at strengthening internal controls and systems to better protect federal funding in the future.

Since the beginning of FY 2013, OI has sustained a loss of seven FTEs, or 18 percent of its investigative staff, due to attrition. Recent budgetary restrictions have precluded replacement of all but two of these FTEs, until early FY 2015 when OI was able to hire two additional investigators. Funding at the Request Level will enable OI to continue to rebuild its civil criminal unit by supporting the addition of one special agent and one forensic IT specialist to use technical expertise in support of OIG investigations. Such services would include: applying electronic review of data to participation in searches conducted pursuant to statutory law enforcement authority; mirroring computers seized in the conduct of such searches; and providing testimony concerning the seizures and analysis of such evidence. It is estimated that additional funding for these two positions will enable OIG to conduct 40 more investigations during FY 2016. Further, OIG anticipates far more robust forensic investigations with an appropriately trained and qualified forensic investigator.

The vacancies that have occurred over the past two years have affected operations in several ways. First, in order to address those investigations that are currently open, OI has had to increase the number of active cases carried by each criminal and research misconduct investigator by 20 percent. This has resulted in delays in completing investigations, presenting cases to U.S. Attorneys for prosecution, and presenting reports of investigations to NSF to facilitate resolution of personnel misconduct and systemic weaknesses identified. Second, staff shortages have delayed development and implementation of the OI electronic case management system, eLOC. Due to the necessity of using an investigator to serve as subject matter expert and procurement development advisor for this initiative, other investigators have assumed a greater load of investigative duties.

Third, unfilled vacancies combined with the lack of travel funds have caused OI to reduce preventive activities and its very successful proactive review program. In the past, these efforts surfaced potential problems associated with individuals, institutions, and entities. Our identification of such problems at an early stage allowed us to bring systemic weaknesses to NSF and make recommendations to the agency regarding their correction. Finally, operating with reduced investigative staff has required, and will continue to require, that OI be more selective in the issues pursued to full investigation in an effort to conserve resources. While performance measured in terms of recoveries and funds put-to-better-use remains high, OI's ability to maintain that momentum over time depends on the adequacy of funding.

Budget cuts have also impaired efforts to address the continuing increase in financial frauds within the SBIR/STTR programs, an area of special Congressional concern. OIG opened 22 new SBIR investigations in calendar year 2011, 33 in 2012, 20 in 2013, and 19 in 2014, with the decline caused by 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, resulting 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 has been a top priority. Adequate investigative resources will be needed to return to the level of momentum generated during the first years of this initiative.

Office of Administration and Legal, Legislative and External Affairs (LLE). The Office of Legal, Legislative, and External Affairs (LLE) was created in FY 2012 under the executive leadership of an Assistant Inspector General (AIG). LLE consolidates a number of functions that have historically worked together, but which were aligned directly under the Inspector General -- legal, legislative/congressional, and external affairs (including public/media contacts). The LLE 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 and preventing and detecting fraud, waste, and abuse in the SBIR Program.

The staff and responsibilities for the Office of Administration were merged into LLE upon the retirement of the Deputy IG (who supervised the Office of Administration) in May 2013. The AIG LLE assumed responsibility for both operating units, and the position of Deputy IG will remain vacant for the foreseeable future. Administration is charged with performing strategic planning/budgeting, procurement, human resources, and office administration and is currently comprised of three staff. Combining the two units has saved money and provided synergistic benefits to the organization, but comes at a cost as one senior executive now assumes the many roles and responsibilities that were previously handled by two.

To ensure that there are adequate resources available for its core mission of audits and investigations, OIG support functions such as LLE and Administration have been streamlined to the maximum extent practical. On an interim basis, attorneys working within Investigations have assisted LLE to assure a basic level of office-wide legal support, which is largely reactive in nature. The AIG LLE must also personally handle a number of staff-level legal actions and questions, in addition to managing his expanded portfolio of responsibilities. In order to ensure that all of OIG's legal priorities are covered, LLE hired an Assistant Counsel in early FY 2015 to support the AIG in addressing the legal issues that arise. This addition will also enable the office to engage in proactive efforts (such as training and routine reviews) to recognize and deal with legal concerns as early as possible.

Preventive initiatives. Funding at the Request Level will enable OIG to strengthen its preventive initiatives program which has borne the brunt of recent budget cuts. OIG was forced to reduce many of its initiatives aimed at fulfilling its core mission to prevent fraud, waste, and abuse. These include efforts to address 1) growing concerns regarding the 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 issues underlying the increasing number of allegations of serious misconduct under investigation which are related to the employment of scientists from other countries who may not understand U.S. rules and procedures; and 3) the underlying causes of SBIR program fraud. In the past, staff has played a key role in educating the agency's stakeholders, drawing on extensive experience in dealing with grant fraud and research misconduct. OIG's proactive efforts are consistent with the emphasis on transparency and accountability mandated by the Administration and the Congress and help assure the integrity of federally-funded research by promoting effective oversight of NSF-funded activities.

As previously noted, the proactive review program has been very productive in generating substantive new cases and identifying systemic problems that are discussed in Management Implication Reports and referred to NSF for corrective action. In recent years, the proactive program has gained access to powerful database analysis tools used to increase the number of fraud investigations undertaken by OIG

and allowing it to identify prospective NSF awardees that are high-risk recipients of federal funds based on past misconduct. However, recent budget constraints have prevented OIG from taking full advantage of this opportunity to leverage its investigative assets, improve its case production, and proactively identify systemic weaknesses.

OIG's ability to continue a robust preventive program of proactive investigative reviews and effective outreach depends on whether staffing and travel resources provide sufficient support, especially in light of other urgent audit and investigative priorities, as set out above. The direct interaction with the research community by OIG staff not only helps educate the community on how to maintain research integrity and financial accountability, but it also establishes vital channels of communication that provide investigators and auditors with valuable information and insights into the needs and concerns of institutions and researchers.

Finally, along with the progress OIG has made in the use of data analytics to strengthen its audits of awardee institutions goes a responsibility to share information about this new technology with the research community and other federal agencies. Outreach efforts aim to educate institutions about the advanced analytics employed and provide insight on system and audit support requirements necessary to complete the engagements in a timely and effective manner. At outreach events OIG also discusses how institutions can perform data analytics using software and financial applications already at their disposal 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 surface additional risks. OIG has complied with these requests as resources allow and anticipates a continuing need for our support.

