

OFFICE OF INSPECTOR GENERAL (OIG)**\$15,350,000**
+\$263,000 / 1.7%

The Appropriations Act that funds the National Science Foundation contains a separate appropriation for NSF's Office of Inspector General. Accordingly, this FY 2020 OMB 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 2020 Budget Request for OIG is \$15.35 million, an increase of \$263,000 over the FY 2018 Actual of \$15.09 million.

OIG Funding
(Dollars in Millions)

	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Change over FY 2018 Actual	
					Amount	Percent
Total, OIG	\$15.09	\$15.20	\$15.35	\$15.35	\$0.26	1.7%
Full-Time Equivalents (FTEs)	68	71	71	68	-	-

Appropriations Language

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, \$15,350,000, of which \$400,000 shall remain available until September 30, ~~2020~~ 2021.

FY 2020 Summary Statement
(Dollars in Millions)

	Enacted/ Request	Unobligated Balance Available Start of Year	Unobligated Balance Available End of Year	Adjustments to Prior Year Accounts	Obligations Actual/ Estimates
FY 2018 Appropriation	\$15.20	\$0.39	-\$0.40	-\$0.10	\$15.09
FY 2019 Annualized CR	15.20	0.40			15.60
FY 2019 Enacted	15.35				15.35
FY 2020 Request	15.35				15.35
\$ Change from FY 2019 Enacted					-
% Change from FY 2019 Enacted					N/A

Explanation of Carryover

Within the Office of Inspector General (OIG) two-year account, \$400,000 was carried over into FY 2019.

Office of the Inspector General

- Amount: \$400,000
- Reason: Funds are expected to be used to procure financial and forensic audit services. 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.
- Obligation: Anticipated FY 2019 Quarter 4

OIG Responsibilities and Structure

OIG provides independent oversight of NSF's programs and operations. The office promotes effectiveness, efficiency, and economy in administering the Foundation's programs and prevents and detects fraud, waste, and abuse within NSF or by individuals who receive NSF funding. By statute, NSF OIG is organizationally independent from the agency, with the Inspector General (IG) reporting directly to the National Science Board and Congress. Given the geographic breadth of the projects NSF funds, OIG conducts audits and investigations across the continental U.S., Alaska, Hawaii, Puerto Rico, and Antarctica. To fulfill its important mission, OIG employs a diverse staff of scientists, attorneys, certified public accountants, criminal investigators, management analysts, data analysts, and information technology specialists. OIG's FY 2018 appropriation was just 0.2 percent of NSF's appropriation and 0.05 percent of NSF's \$29.8 billion portfolio of active awards, yet its return on investment is many times that amount. OIG serves as an invaluable safeguard against fraud, waste, abuse, and whistleblower reprisal.

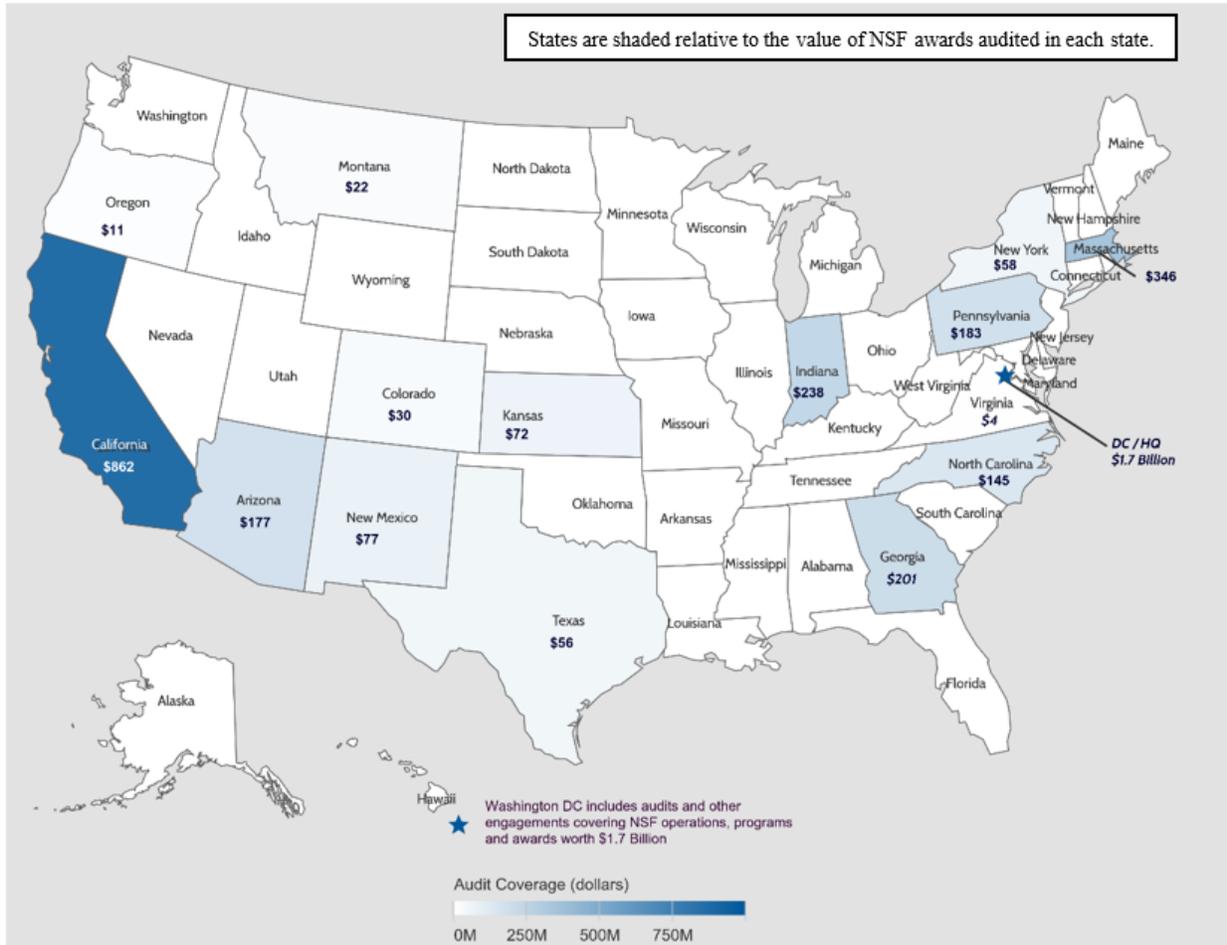
OIG's work is divided into two functional areas: the Office of Audits and the Office of Investigations, which are supported by the Office of Management, Office of Counsel, and Immediate Office of the Inspector General. Highlights of the office's operational impact and strategic focus by functional area follow:

Audit Impact and Strategic Focus

OIG's Office of Audits (OA) conducts audits of NSF's contracts, cooperative agreements, and grants to universities and other research institutions, as well as 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 regulations.

In FYs 2017–2018, OIG audited \$4.2 billion in NSF funding in 15 states and Washington, D.C. — resulting in 34 audit and other engagement reports containing a total of \$5.1 million in questioned costs and 232 recommendations to improve NSF operations. The map below shows the value of the awards audited in each state.

Audit Coverage October 2016 – September 2018



In FY 2018, OA identified more than \$1.32 million in questioned costs and made 101 recommendations to NSF and its awardees to strengthen program and grant operations. NSF has already taken, or committed to take, corrective actions for 40 of the 101 recommendations. In addition to recouping questioned costs, implemented recommendations from recent OIG audits have helped strengthen NSF’s records management, oversight of conference spending, and controls over its large-scale, multi-user research facilities (major facilities).

Much of OA’s work is focused on recipients of NSF’s oversight of major facilities, which are state-of-the-art infrastructure including telescopes, ships, and observatories. As of November 2018, NSF supported 25 major facilities, each of which cost between \$70 million and \$800 million to construct. NSF also spends approximately \$1 billion a year on major facility operations. Since 2010, OIG has issued 61 reports containing 151 recommendations to improve NSF’s management of major facility construction and operations. To date, NSF has addressed 145 of these recommendations. Additionally, Congress relied on these audit reports and recommendations to codify several major facility-focused requirements in the *American Innovation and Competitiveness Act of 2017* (AICA).

OA is currently conducting an audit to 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. Ensuring that strong controls exist over the use

of such funds is vital, as the use of operations funds for construction work can hide cost overruns and deplete funding needed for the operations phase. OA's plans for continuing oversight of major facilities include:

- Assessing how NSF identifies, plans for, and manages essential divestment opportunities for major facilities. The AICA requires NSF to plan for the full lifecycle of a major facility, including costs associated with divestment of a facility at the end of a lifecycle. OA also plans to monitor NSF's actions in response to the AICA.
- Auditing NSF's oversight of awardee reporting of program income and its use of contractors to assess the impacts of its scientific investments.
- Monitoring the design, construction, and ongoing capital investment and support of the Antarctic Infrastructure Modernization for Science (AIMS), one of NSF's most challenging major facility initiatives. According to NSF, the AIMS project will ensure that McMurdo Station remains a viable platform for supporting Antarctic science for the next 35 to 50 years.

In addition to discretionary audits, OIG oversees the audit of NSF's annual financial statements, annual audits mandated by the *Federal Information Security Modernization Act of 2014* (FISMA), the *Improper Payments Elimination and Recovery Act* (IPERA), biennial audits mandated by the *Digital Accountability and Transparency Act* (DATA Act), and triennial audits mandated by the *Government in the Sunshine Act of 1976*. Additionally, in FY 2019, OIG is required to review NSF's fleet utilization, and may begin work to comply with the *Grants Oversight and New Efficiency* (GONE) Act.

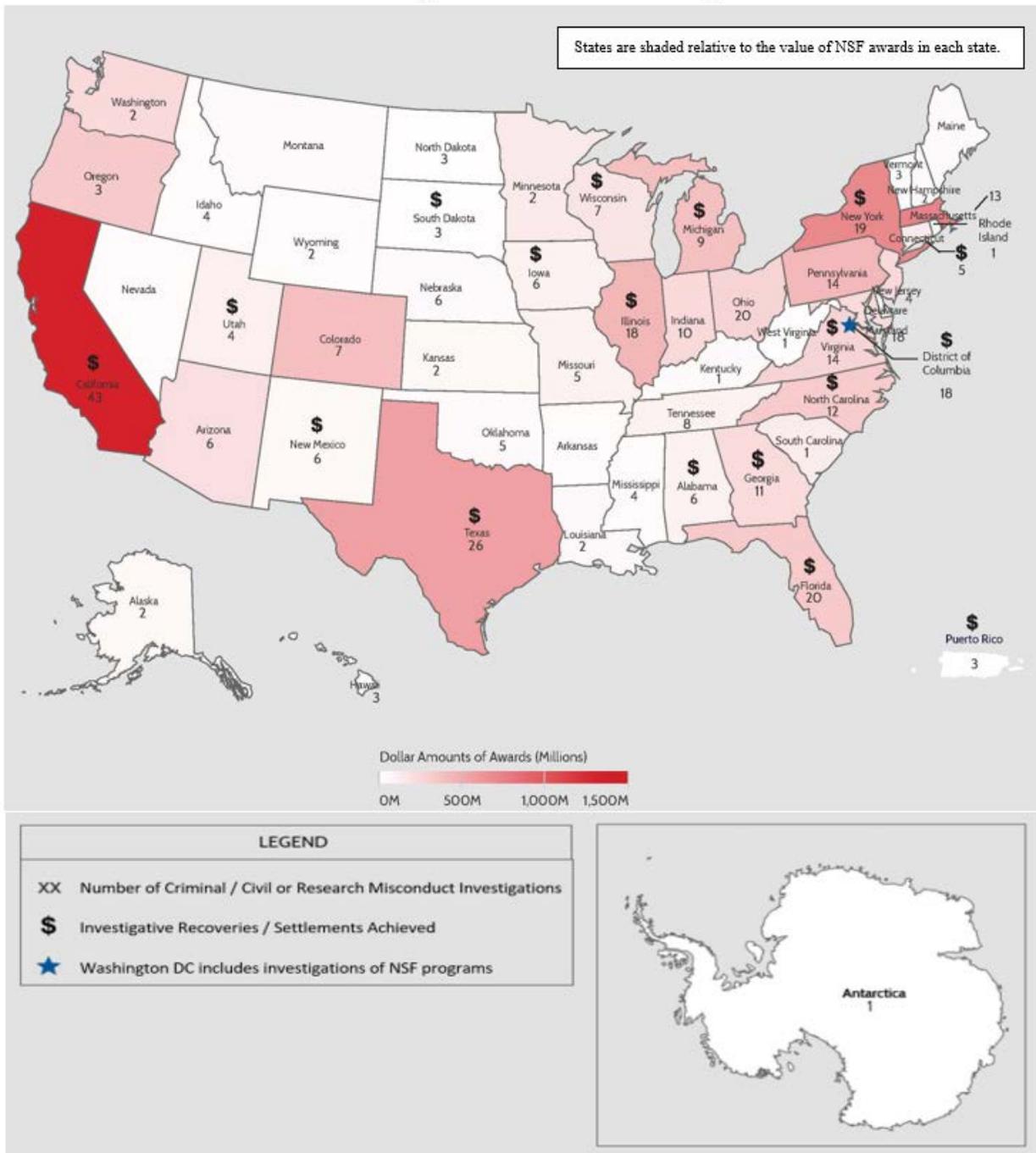
OA continuously reviews its audit approaches and techniques to identify opportunities for improvement. In FY 2018, OA reengineered its approach to internal audits by conducting audit work at awardee institutions to test the effectiveness of NSF controls. This new process will strengthen audit findings and help NSF improve its controls. OA also improved its process of contracting for grant and contract audits to ensure it has the flexibility to address the highest risk areas. In the past, contractors only conducted incurred cost audits. The new model includes an audit survey that evaluates the awardee's risks on site and recommends the optimal type of audit to address those risks. This new approach will help ensure OA can address systemic issues relating to proper management of Federal funds, recapture misused funds, and ensure proper stewardship of Federal funds going forward.

To increase efficiency and effectiveness, OA has also begun developing additional data mining tools for use in performing both internal and external audits. These new text-mining capabilities will allow the office to quickly analyze hundreds of documents, which would otherwise need to be reviewed one at a time, and combine predictive analytic capabilities to identify high-risk transactions, misuse of funds, or potentially fraudulent activity.

Investigative Impact and Strategic Focus

OIG's Office of Investigations (OI) conducts investigations of criminal, civil, and administrative wrongdoing related to NSF programs and operations, including all entities and individuals that receive NSF funds. OIG also evaluates allegations of research misconduct such as data fabrication, data falsification, and plagiarism related to NSF-funded research. As the map below illustrates, OI's investigative oversight of the NSF award portfolio is expansive. In FYs 2017-2018 OI conducted 382 investigations spanning 46 states, as well as Washington DC, Puerto Rico, and Antarctica.

NSF OIG Investigations October 2016 – August 2018



When appropriate, OI refers the results of their investigations to the Department of Justice or other authorities for criminal prosecution, civil litigation, resolution via settlement agreements and institutional compliance plans, and other administrative actions to protect federal funds. OI’s investigations resulted in numerous and significant criminal convictions, civil settlements, investigative recoveries, award suspensions and terminations, and government-wide suspensions and debarments of individuals and entities.

OI investigations yield substantive results for NSF and the Federal government. Since FY 2009, OI investigations have resulted in numerous convictions and financial recoveries to the Federal government of over \$65.0 million, including nearly \$51.0 million of NSF funds. In FYs 2015-2018, OIG's investigations resulted in nearly \$29.0 million in recoveries, or approximately \$362,500 per OI line investigator, as well as 122 suspensions, debarments, or other actions taken to protect federal funds from unscrupulous individuals and entities. In FY 2019 to date, OI investigations have resulted in over \$3.0 million in recoveries. OI's vigilance ensures that those who receive NSF funds to conduct research are held accountable and serves as an important deterrent to grant fraud and research misconduct.

Continuing and emerging threats to the integrity of funded research challenge OI's ability to oversee NSF's award portfolio. Foreign threats to American research and development, as well as growth in Small Business Innovation Research and Small Business Technology Transfer (SBIR /STTR) cases, continue to increase the size and complexity of OI's workload.

Beginning in FY 2018 and continuing into FY 2019, OI initiated its first criminal investigations focused on potential misuse of NSF funding by members of foreign "talent plans". Recent Congressional hearings have also focused on the theft of U.S. federally-funded research and development by foreign states who use talent plans to exploit the openness of American universities and research enterprises. OI has confronted this national security threat through close collaboration with the FBI and other investigative partners and is engaged in many efforts to assess whether actions by participants in such plans violated Federal laws, rules, or regulations. There are costs associated with these investigations that do not apply to other civil or criminal investigations because documentary evidence along with interviews conducted in a foreign language may require transcription or the services of a certified translator.

OI is also working to address fraud in the SBIR/STTR programs. Through its leadership of an OIG community working group focused on fraud in these programs, OI has generated more than 195 SBIR/STTR cases since 2010. With NSF's total annual SBIR/STTR award expenditures now approaching \$200.0 million, protecting SBIR/STTR funds from fraud and abuse has become even more important. OI has successfully partnered with NSF program managers to improve SBIR/STTR processes and procedures to reduce the opportunity for fraud to occur. OI also conducts SBIR/STTR-related outreach at semiannual NSF awardee workshops, providing guidance to the small business community on how to properly handle Federal funds and the consequences of not following the rules.

OI oversight also contributes to the integrity of funded research and to the identification of unscrupulous individuals who violate the basic precepts of responsible conduct of research through commission of data fabrication, data falsification, and plagiarism. OI's investigative scientists are respected worldwide for their expertise in dealing with research integrity violations and are often asked by international and national academic/research organizations to share their expertise regarding trends in research misconduct, particularly data falsification. They provided significant input and support for the National Academy of Science's (NAS) 2017 report on Fostering Integrity in Research, which addressed rising trends in research misconduct and other violations of research norms. OIG also conducted a review of Responsible Conduct of Research programs at awardee institutions in response to a directive in the *America COMPETES Act of 2007*. In FY 2018, OI's investigative scientists began an assessment of 10 years' worth of plagiarism cases to identify trends and other information NSF and universities can use to help address the prevalence of plagiarism in the research enterprise.

Support Offices' Actions and Impacts

Office of Management. This centralized office is responsible for strategic planning/budgeting, procurement, human resources, IT services and administrative support for the entire office. Specific functional areas in Office of Management (OM) include:

- Budget and administration—responsible for all budgetary, financial and most administrative business conducted by the office, as well as coordination with NSF to provide human resources and procurement support.
- Intake operation—all complaints regarding fraud, waste, and abuse are handled by an intake coordinator, who processes over 250 allegations annually. The external OIG Hotline website has been revamped to quickly identify substantive allegations which are then reviewed by management for consideration.
- Forensic accounting and data analytics—several years ago, we added a forensic accountant skilled in data analytics to help investigators manage the large amounts of information they received through subpoenas and other means. The forensic accountant reduced the need for contract services by over 50 percent, saving \$100,000 per year. Additionally, the application of data analytics to vital functions such as contractor oversight yields further management efficiencies and cost savings.
- IT services—IT support including website maintenance and posting of reports, digital forensics, and data security. The digital forensics activity has become much more critical in investigations, as most of the evidence being captured is electronic.

Office of Counsel. The Office of Counsel (OC) consists of the Counsel to the IG and two assistant counsels, one of which is part-time. It provides comprehensive legal advice and critical analysis to the IG and all OIG divisions, including legal review of externally-issued OIG work products and certain correspondence. OC handles myriad subject areas, including audit-related support, ethics, appropriations law, acquisitions, information disclosure, privacy, personnel, and IG Act authorities. OC also supports the larger IG community through active participation in CIGIE projects and committees. On average, OC handles more than 150 actions per year, which include routine reviews, Freedom of Information requests, and legal opinions on various matters.

Immediate Office. The Inspector General’s immediate office includes the Chief of Staff and Executive Assistant. The Chief of Staff handles all matters relating to external affairs, primarily congressional relations, and public/media contacts.

Government-wide Impact

Though small relative to many other OIGs, NSF OIG continues to make significant contributions to the Inspector General community and the government at large. For example:

- NSF’s Inspector General has served as the vice chair of the Council of the Inspectors General on Integrity and Efficiency (CIGIE) since 2014, which includes:
 1. chairing CIGIE’s IG Candidate Panel to help the White House identify strong candidates for vacant Presidentially-Appointed Senate-confirmed IG positions;
 2. representing the IG community in a Five-Eyes effort focused on counter-fraud begun by the British government; and
 3. leading CIGIE’s Grant Reform Working Group, which provides valuable feedback and insights to OMB staff as they consider grant-related changes.
- NSF OIG has conducted outreach to the Federal IG community, provided training to other investigative agencies, and taken the lead to establish and run four IG community working groups to:
 1. prevent fraud within the SBIR/STTR programs;
 2. increase the use of government-wide suspension and debarment as tools to deter and reduce instances of fraud, waste and abuse;
 3. foster the next generation of senior investigative leaders within the IG community; and
 4. address emerging threats to U.S. national security through efforts by foreign governments to steal intellectual property and other research.
- In FY 2017, OI hosted its fifth government-wide Suspension and Debarment Workshop. These free

events (which are now co-sponsored by the Interagency Suspension and Debarment Council) have trained hundreds of individuals from OIGs, Suspension and Debarment Offices, Offices of General Counsel, and United States Attorneys' Offices. Because of these workshops, several agencies that were not previously using suspensions or debarments to protect federal funds have begun to do so, while other agencies already using them are employing them more effectively. OIG staff are working with the Interagency Suspension and Debarment Council to plan the sixth suspension and debarment workshop in FY 2019.

Financial Discussion

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

	FY 2018 Actual	FY 2019 Annualized CR	FY 2020 Request	Change Over FY 2018 Actual	
				Amount	Percent
Personnel Compensation and Benefits ¹	\$12,217	-	\$12,825	\$608	5.0%
Travel & Transportation of Persons	250	-	300	50	20.0%
Advisory & Assistance Services ²	1,960	-	1,840	-120	-6.1%
Rent	86	-	120	34	39.5%
Information Technology	127	-	25	-102	-80.3%
Communications, Supplies, Equipment & Other Services	447	-	240	-207	-46.3%
<i>Training</i>	176	-	100	-76	-43.2%
<i>Other</i>	271	-	140	-131	-48.3%
Total, OIG	\$15,087	\$15,200	\$15,350	\$263	1.7%
Full-Time Equivalents	68	71	68	-	N/A

¹ FY 2020 PC&B includes base salary costs and anticipated within grade and promotion increases.

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

With an FY 2020 appropriation of \$15.35 million, OIG will perform the core elements of its mission and reduce its workforce to 68 FTEs, a reduction of three staff from FY 2019. During the past five years, the average cost per FTE increased by approximately 25 percent due to a rise in benefit expense, as well as the mission essential replacement of lower wage administrative staff with auditors and investigators.

Travel costs for both audits and investigations are expected to increase by about 20 percent over current levels by FY 2020 due to several factors, including travel to the Antarctic for oversight work associated with the McMurdo modernization, as well as the expanding landscape of OIG investigations, as previously described.

For these reasons, the Budget requests an increase of \$263,000 in FY 2020. In addition, to help absorb anticipated cost increases due to travel and other cost increases, OIG will reduce the number of staff as well as spending in other areas, including contracts, IT resources, and training.