National Science Foundation • Office of Inspector General
4201 Wilson Boulevard, Suite I-1135, Arlington, Virginia 22230

MEMORANDUM

DATE: March 20, 2013

TO: Dr. Cora B. Marrett
Deputy Director, National Science Foundation

FROM: Dr. Brett M. Baker
Assistant Inspector General for Audit

SUBJECT: *Audit of Cost Associated with NSF's Use of Intergovernmental Personnel Act Assignees,* Report No. 13-2-008

Attached please find the final report of our audit of NSF's use of Intergovernmental Personnel Act assignees. The report contains one finding on the need for NSF to take appropriate action to evaluate ways the cost of using IPAs can be reduced. We have included NSF's response as an appendix to the final report.

To comply with Office of Management and Budget Circular A-50 requirements for audit followup, please provide within 60 calendar days a written corrective action plan to address the report recommendation. This corrective action plan should detail specific actions and milestone dates.

We appreciate the courtesies and assistance provided by so many NSF staff during the audit. If you have any questions, please contact Marie Maguire, Director of Performance Audits, at (703) 292-5009.

Attachment

cc:

Subra Suresh	Allison Lerner
Eugene Hubbard	Marie Maguire
Judith Sunley	Kelly Stefanko
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Audit of Cost Associated with NSF's Use of Intergovernmental Personnel Act Assignees

National Science Foundation

Office of Inspector General

March 20, 2013

OIG Report No. 13-2-008

Results In Brief

NSF uses the Intergovernmental Personnel Act of 1970 as its primary way to bring in top scientists, engineers, and educators from universities and industry as temporary staff, called IPAs, to maintain its world-class scientific workforce. The Act's authority frees NSF from the usual hiring constraints on federal employees' pay and benefits, thus NSF can compensate IPAs more than permanent employees in the same positions. NSF also hires temporary staff, who are federal employees and thus subject to federal limitations on pay and benefits, under the Visiting Scientists, Engineers and Educators (VSEE) program.

IPAs remain employees of their home institution while at NSF and NSF matches their home salaries. Also, NSF can pay for temporary living expenses, provide paid time and travel expenses for IPAs to continue research activities at their home institutions, replace lost consulting income, and reimburse IPAs for state taxes they would not have had to pay if they remained at their home institution. Because NSF pays IPA costs out of program funds, reducing these costs could free up more money for research grants. In 2012, we estimated that NSF's additional annual cost for using IPAs instead of permanent employees was approximately $6.7 million for 184 full-time IPAs, an average of $36,000 per IPA.

All three parties – NSF, IPAs and their home institutions – benefit from IPA assignments. NSF gains new ideas and expertise from the research community. IPA assignees learn about NSF programs and the merit review process. Finally, the IPAs' home institutions benefit from the knowledge of and experience with NSF and its processes that IPAs bring back when they return. While we recognize the benefits that come from having IPAs at NSF, we did not find evidence that NSF has examined the additional costs incurred as a result of using IPAs and sought ways to reduce those costs. We recommend that NSF evaluate ways to reduce IPA costs, including expanded use of telework and greater cost sharing by IPA home institutions.

We also noted that NSF has not designated anyone responsible for measuring and documenting the impact of rotating personnel, including IPAs, on the agency. As a result, NSF misses opportunities to assess the rotator programs' overall contribution to NSF's mission and goals. As part of enhancing the management and oversight of the IPA program, NSF could consider incorporating a champion responsible for overseeing and managing the rotators programs.

Background

Rotator Programs

To further the agency's mission of supporting science and engineering research and education, the National Science Foundation (NSF) draws on scientists, engineers, and educators on rotational assignment from academia, industry, or other eligible organizations. All of the non-permanent appointments are federal employees, except for Intergovernmental Personnel Act (IPA) assignments, who remain employees of their home institution. NSF also has a program for employing Visiting Scientists, Engineers and Educators (VSEE), and together, these are known as "rotator" programs. Because IPAs are the most significant and prominently used component of the rotator programs, we focused our audit on the IPA program.

Intergovernmental Personnel Act Mobility Program

The Intergovernmental Personnel Act of 1970 provides authority for the temporary assignment of skilled personnel to or from federal, state, local or tribal governments, or institutions of higher education and other eligible organizations without the loss of employee rights and benefits. It permits individuals to serve in a temporary capacity for a period of up to 4 years. IPA assignments are voluntary and must have the agreement of the participating employee. NSF obtains most of its temporary scientists, engineers, and educators using the IPA Act. NSF believes using IPAs in its directorates and offices strengthens its ties with the research community and provides the talent and resources that are critical to meeting NSF's mission. Using the Visiting Scientists, Engineers and Educators (VSEE) program, NSF obtains a smaller number of individuals who become temporary NSF employees for up to 2 years.

IPAs remain employees of their home institutions, and the home institutions administer the IPAs' pay and benefits. Accordingly, IPAs are not subject to federal pay and benefits limitations. It is important to note that NSF's source of funding for IPAs is different from the appropriation that funds its employees. NSF reimburses the home institution for an IPA's salary and benefits using grants funded through its program-related appropriations. Appendix C outlines how benefits and salaries are funded and paid for IPAs and federal employees.

A branch in NSF's Division of Human Resource Management provides recruitment and employment support services for IPAs, such as calculating compensation and coordinating with the IPA's home institution. Although the frequent turnover associated with temporary assignments may create an additional workload beyond what is required in hiring permanent employees, we did not attempt to quantify the additional costs NSF incurs in administering the IPA program.

NSF's Use of IPAs

In August 2012, IPAs comprised approximately 12 percent of NSF's overall workforce, including approximately 31 percent of all program director positions and 17 percent of NSF's executive positions, such as Assistant Directors who lead NSF's science directorates. IPAs comprised less than one percent of the workforce for all five of the

other science-centric federal agencies we contacted.[1] In addition, IPAs at those federal agencies were generally used in research related positions, such as science advisors, and did not typically fill management positions.

While our audit was underway, NSF Office of the Director prepared a white paper (Appendix D) to elaborate on the value and benefits of IPAs. This document articulated how IPAs contribute to NSF's mission and how the flexibilities afforded by the IPA Act help it attract leading scientists, engineers, educators and others. The document also stated that it is a "constant challenge" for NSF to attract top level talent and stated that even with the additional flexibility provided by the IPA Act, "NSF still struggles to attract the Nation's leading researchers to temporary public service".

As shown in the chart that follows, the number of IPAs NSF uses annually has increased from 126 in 2004 to 190 in 2012, with IPAs growing from 9 to 12 percent of the NSF workforce over that period.

Trend of IPAs as a Percentage of NSF Total Workforce[2]

Year	Number of IPAs	Total NSF Workforce	% IPA of Total NSF Workforce
2004	126	1,372	9%
2006	149	1,407	11%
2008	160	1,468	11%
2010	167	1,530	11%
2011	178	1,528	12%
2012	190	1,545	12%

We obtained from NSF's Division of Human Resource Management a list of all IPAs and related costs as of August 1, 2012. We removed 14 part-time IPAs from the population to avoid skewed data, for a total of 184 full-time IPAs as of August 1, 2012 to use for our audit scope.

Results of Audit – *Additional Cost of Using IPAs*

NSF strives to make IPAs "whole" by providing the salary and fringe benefits they were earning at their home institutions, as well as reimbursing them for travel to NSF, temporary living expenses, lost consulting income and state income taxes if the IPA is from a state that does not have an income tax.

[1] Department of Energy, the National Aeronautics and Space Administration, the Department of Health and Human Services National Institutes of Health, the Environmental Protection Agency, and the Department of Defense Army Research Laboratory.

[2] Source: NSF workforce profile reports prepared by NSF's Division of Human Resource Management, Workforce Planning and Analysis Branch.

The additional cost of using IPAs in lieu of hiring permanent federal employees is significant. We found that NSF paid an annual, additional cost of approximately $6.7 million or an average of over $36,000 per IPA, for the 184 IPAs we examined. The chart that follows shows the cost in greater detail.

Annual Additional Cost of Using IPAs vs. Permanent Federal Employees

Additional Cost	Total Additional Cost for 184 full-time IPAs *(at NSF as of 8-1-12)*	Average Additional Cost per IPA
Salaries[+]	$3,021,205	$16,420
Fringe Benefits[+]	787,147	4,278
Lost Consulting	337,823	1,836
Relocation/Temporary Living Expenses	1,438,696	7,819
Independent Research and Development Travel	1,077,468	5,856
State Tax Reimbursement	44,000	239
Total Annual Additional Cost	**$6,706,339**	**$36,448**

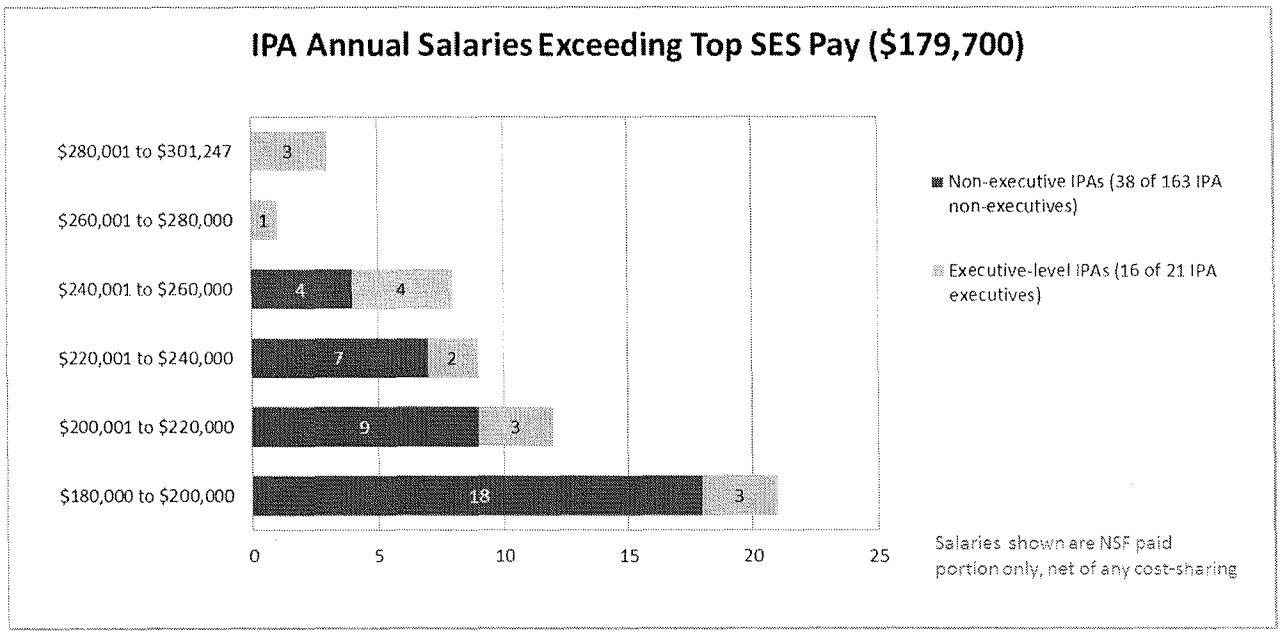
[+]*The amounts shown for salary and fringe benefits are the amounts NSF paid, which are net of any cost share received from IPAs' home institutions.*

Salaries: For one year, NSF incurred an additional cost of slightly over $3 million for IPA salaries.[3] We considered additional cost to be the cumulative amount an IPA's salary exceeded the average salary for a permanent federal employee in the same or a comparable position.

In August 2012, NSF had 21 IPAs at the executive level and 163 non-executive IPAs, 154 of which were program directors. NSF paid 54 IPAs salary exceeding the federal executive pay limit of $179,700, which is the highest salary earned by a federal employee at NSF, including presidential appointees. NSF paid 34 of these IPAs an annual salary of $200,000 or more, with the highest annual salary of $301,247 paid to an Assistant Director.

The following graph illustrates the number and range of IPA salaries that NSF paid in 2012 that exceeded the maximum salary for federal executives at NSF.

[3] To estimate the additional salary paid to IPAs, we calculated the average annual salary actually paid to permanent employees in positions equivalent to those filled by IPAs by position-type (i.e., $161,325 for Program Directors and $172,408 for Senior Executive Service staff). For each IPA that was paid more than the average salary of his or her permanent employee counterpart, we considered the difference to be an incremental salary cost, for a total of $3,021,205.



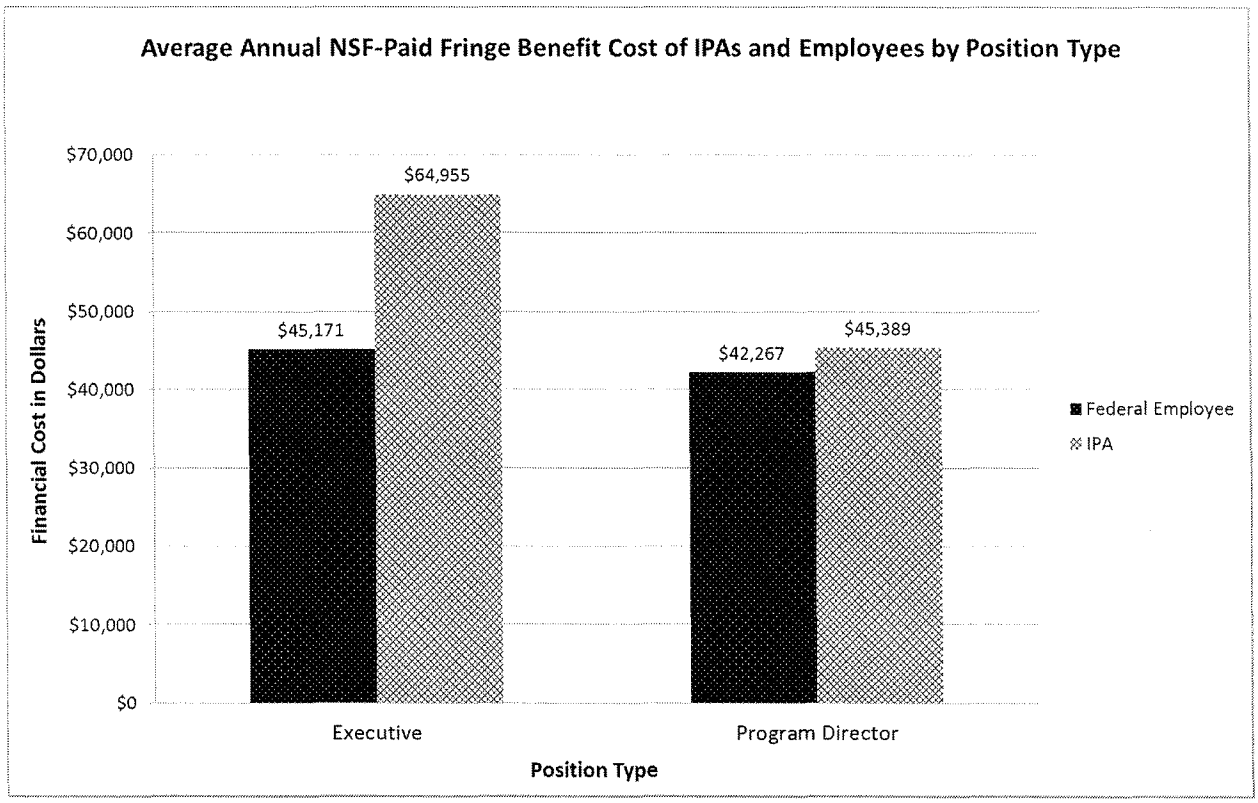
Fringe Benefits:

IPAs continue to receive fringe benefits (such as retirement and health and life insurance) from their home institution. We calculated that NSF paid nearly $800,000 in additional fringe benefit cost for IPAs.[4]

NSF does not know the individual components (health insurance, retirement, child care, etc.) or cost comprising the fringe benefit packages it pays for IPAs. NSF reimburses the home institution for its contribution to the IPA's fringe benefit package based on a percentage or dollar amount provided by the institution. Because of the wide variety of fringe benefits that can be provided by an employer, cost of fringe benefits for IPAs varies widely. For the 184 IPAs we examined, NSF paid employer contributions for the IPA fringe benefits at rates ranging from 8 to 60 percent of salary, with an average rate of 31 percent of compensation. In comparison, NSF paid its permanent employees an average fringe benefit rate of 26 percent of compensation.

The following graph provides a side-by-side comparison of NSF-paid fringe benefits (net of cost-share) for both IPAs and comparable permanent federal employees by position type.

[4] To estimate the additional cost of fringe benefits paid to IPAs, we calculated the average annual salary paid to all permanent employees, both Program Directors and Senior Executive Service staff combined, in positions equivalent to those filled by IPAs ($162,604), We multiplied this average salary by the average fringe benefit rate NSF paid its permanent employees (26.2%), for average fringe benefits of approximately $42,602 for a federal employee. We then multiplied this $42,602 by 184 full-time IPAs for a total of $7,838,768, an estimated annualized total fringe benefit amount NSF would have paid its 184 IPAs had they instead been federal employees. We then subtracted this amount from the total annualized fringe benefits paid to IPAs ($8,625,915) to obtain the additional fringe benefits paid to IPAs of $787,147.



Lost Consulting: IPAs can receive up to $10,000 annually to replace consulting income they had been earning if they agree to discontinue consulting activities while on assignment at NSF and can provide tax records to support the amount earned. Permanent federal employees do not receive payments for lost consulting income; therefore, all lost consulting paid is an additional cost to NSF. NSF paid 58 of the 184 IPAs (or 32 percent) lost consulting payments at a total annual cost of $337,823. The average amount NSF paid to IPAs that received lost consulting was $5,726, with payments ranging from $500 to one IPA to $10,000 to 13 IPAs.

Temporary Living Expenses: IPAs can receive a household move or partial reimbursement for lodging, meals and incidental expenses (i.e., per diem) for temporarily relocating to NSF for the duration of their assignment. Ninety-two percent of the 184 IPAs we examined (169 of 184) came from outside of the Washington, DC metropolitan area and all opted to receive temporary living expenses (per diem paid at a maximum of $22,507 for each year of their assignment) instead of relocation expenses to move their household, costing NSF approximately $3.8 million annually.

In comparison, over the most recent 2 year period, NSF hired a total of 77 permanent federal employees, for an average of 39 per year, in positions similar to those held by IPAs (such as in science directorates and the Office of the Director). Of these 77 new

hires, 51 percent were paid relocation expenses, which cost NSF an average of $501,274 in the period we examined.[5]

Annual Additional Cost for Relocation/Temporary Living Expenses

	IPA	Fed	Difference
Total people	184	39	
Annual total cost	3,803,683	501,274	
Per person cost	20,672	12,853	7,819
x the number of IPAs			184
Additional cost for IPAs			**1,438,696**

To determine the added cost of using IPAs, we calculated the difference between the per-person cost of temporary living expenses paid to an IPA, and the per person cost of relocating a permanent federal employee. We then multiplied that amount by the total number of IPAs to estimate the incremental cost of using IPAs.

As shown in the chart above, we estimate that NSF paid an additional cost of $7,819 per IPA, for a total of over $1.4 million for the 184 IPAs in 2012. It is important to note that employee relocation costs are paid one time, while IPA per diem is paid annually.

Independent Research and Development Program: The Independent Research and Development (IR/D) program provides IPAs paid time and travel to return to their home institution and continue their research while working at NSF. NSF allows IR/D participants to spend up to 50 work days a year on IR/D. While this opportunity is available to all NSF staff, IPAs are its primary users. Of the 184 IPAs we examined, 171 (93 percent) participated in the IR/D program in 2012.

A 2012 NSF OIG audit found that most IR/D travel in 2010 was taken by IPAs, typically travelling to and from their home institution and spanning the weekend.

Because IPAs are much more likely to participate in IR/D and to travel as part of their IR/D, than permanent employees, NSF incurs additional cost in providing the IR/D benefit for IPAs. For the one-year period ending 8/1/2012, we estimated[6] that NSF spent nearly $1.3 million in travel cost to support IPAs' IR/D activities as compared to $183,631 for permanent federal employees' IR/D activities. Therefore, we consider the $1,077,468 difference an additional cost of IPAs.

[5] We used an average of the last 2 FYs of relocation expenses because the amounts varied significantly: relocation costs in FY 2011 were $702,217, while such costs in FY 2012 (through September 14, 2012) totaled $300,332.

[6] Beginning in May 2012, NSF instituted new program element and object class codes to better track the costs of IR/D activities. In the future, the travel costs of IPAs and government employees can be readily compared. Since these codes were not in place at the time of our audit to capture a full year's expenses, we alternatively estimated IPA and permanent employee IR/D travel costs using costs captured by the NSF travel system.

State Tax Reimbursement: NSF will reimburse IPAs for state tax paid on income earned while on assignment at NSF if they are from one of the 9 states that does not have a personal state income tax. NSF estimates it has between 5 and 10 IPAs from those states each year. Because NSF does not pay this cost for its permanent employees, the total $44,000 NSF paid for this cost in Fiscal Year (FY) 2012 was considered an additional cost of using IPAs. Since state income taxes had not been assessed for 2012, we used the amount NSF paid for this cost in FY 2012 ($44,000) as an estimate.

Finding – *Opportunities Exist to Reduce Cost of IPAs*

As noted previously, all parties - NSF, the IPA, and home institutions - benefit from the authorities in the IPA Act. The standard language in all IPA agreements that NSF, IPAs, and home institutions all sign acknowledge this mutually beneficial arrangement and state that assignments "serve a mutual public purpose."

A January 2013 white paper on the value of IPAs prepared at the request of the National Science Board, confirms that, "NSF benefits greatly by relying on the up-to-date expertise of leading external researchers to help shape its funding programs to support transformational advances across the frontiers of all fields of science, engineering, and education." Through their assignment, IPAs learn about NSF, including the merit review process. The paper confirms NSF's expectation that, when researchers conclude their IPA assignments, knowledge of NSF policies and practices is transferred to their home institution and the broader scientific community.

We do not question the fact that IPAs bring benefits to NSF, but there are costs associated with those benefits. During the period we examined, NSF expended approximately $6.7 million more in using IPAs in lieu of hiring permanent federal employees. In a time of austerity, it is important to evaluate all costs and identify opportunities for savings. Costs for federal employees are currently being carefully examined and controlled. Federal pay has been frozen for two years and strict limits have been placed on bonus pools for the same period. At the same time, close attention is also being paid to funds for travel and training. Under the circumstances, NSF should be carefully examining costs associated with IPAs, in particular, since savings there free up funds for additional research.

While we recognize the benefits that come from having IPAs at NSF, we did not find evidence that NSF has examined the additional costs incurred as a result of using IPAs and sought ways to reduce those costs. In fact, in some instances, the agency is routinely deviating from policies that were instituted to lessen the financial impact of using IPAs.

We identified several possible ways that costs associated with IPAs could be reduced. We recommend that the NSF Director take appropriate action to evaluate these and any other actions which could lessen the cost of IPAs.

Increase Use of Telework from Home Institution for IPAs

NSF spends a substantial amount of money to bring and keep IPAs on site at its Arlington, VA headquarters for the duration of their assignments, which can last up to four years. Two of the largest incremental costs that NSF incurs in using IPAs in lieu of permanent employees (temporary living expenses estimated at $1.4 million annually and travel for IR/D estimated at almost an additional $1.1 million annually) are largely a result of IPAs relocating for their assignment. Reducing IPAs' time spent on-site could provide NSF opportunities to reduce these costs.

Reducing IPAs' time spent on site could also help the agency deal with space constraints. Office space at NSF's current headquarters is already limited and it is uncertain whether the situation will be improved when the agency executes a new lease after the expiration of the current one in 2013. If the space available for federal employees' offices declines, it is possible that NSF will have to increase the use of telework for all staff, including IPAs. To avoid the prospect of paying IPAs to come to NSF to work, then having to have them telework from their new home in Virginia, it is important that NSF consider how much time IPAs need to be physically present at NSF to effectively fulfill the duties of their assignments.

In the time since 1970 when IPAs were first authorized, there has been an evolution in remote- working options. In light of these advancements in working off site, NSF should examine how often IPAs need to be at NSF during their assignments. NSF already utilizes a number of technologies that enable remote participation, such as teleconferences, videoconferences, and online meetings that could enable IPAs to work primarily from their home institutions. Increased IPA usage of these technologies could reduce IPAs' time on site. For example, NSF could decide that IPAs only need to be at NSF for an initial training period to get acclimated to the federal work environment before allowing them to work primarily from their home location, with infrequent travel to NSF headquarters.

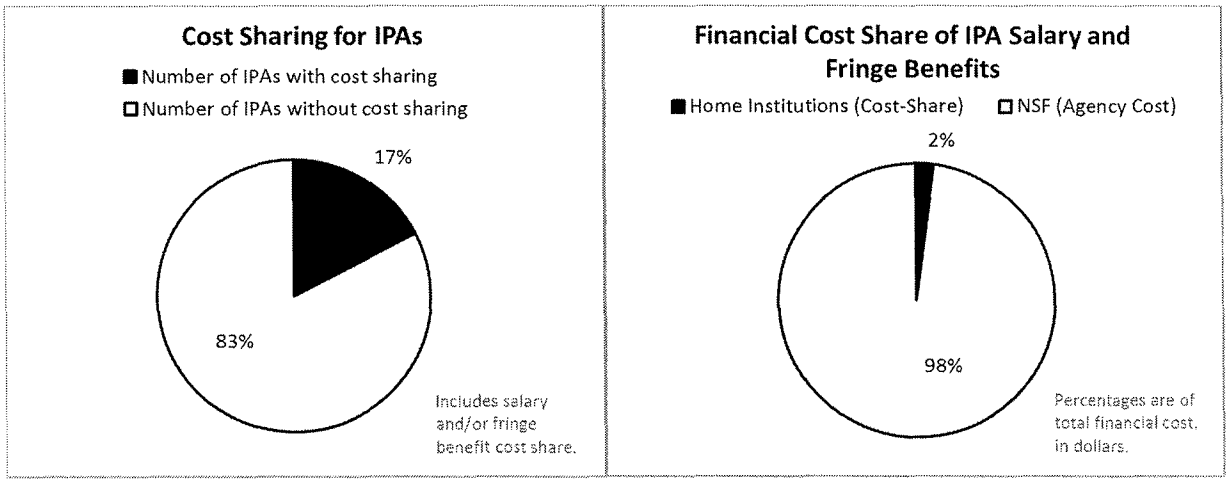
Some IPAs, especially those at the executive level, may need to be on-site more than others. However, of the 184 IPAs at NSF during the period we examined, only 21 were at the executive level while 163, or 89 percent, were at non-executive staff levels. Given the large number of IPAs below the executive level, in addition to the availability of tools to enhance remote working, an increased use of telework for IPAs seems to be a realistic option.

Increase Cost Sharing by IPA Home Institutions

As previously stated, IPA assignments benefit NSF, IPAs, and the home institution. In this vein, NSF's policy is to request IPAs' home institutions to voluntarily share at least 15% of salary and fringe benefit cost.

We found NSF only received cost sharing for 32 of 184 IPAs in 2012, including some institutions that shared at rates as low as 3 and 4 percent. NSF's receipt of cost sharing has declined from 33 percent of IPAs in the mid-1990s to 17 percent as of August 1, 2012. The $668,655 institutions paid toward salaries of the 184 IPAs we examined

reduced NSF's cost for those IPAs on a dollar-for-dollar basis. If NSF increases the amount and frequency of home institutions sharing the cost of IPA salary and fringe benefits, the agency has the potential to achieve substantial savings.



NSF could also consider expanding the types of costs it requests institutions to share. As noted, NSF currently seeks cost share only for IPAs' salary and fringe benefits. For example, NSF could ask institutions to share in the cost of IPAs' participation in IR/D. Ninety-three percent of IPAs participated in the program and typical IR/D activities, such as IPAs returning to continue research and to serve as a thesis advisor for students, benefit the home institutions as well as the IPAs. Sharing the cost of such activities with the IPAs' institutions could yield additional savings.

Limit Salary Annualization to the Maximum Federal Pay Rate for the Position

IPAs' salaries at NSF are calculated based on the salaries IPAs receive at their home institutions. When IPAs are paid on a 9 month, academic calendar basis at their home institutions, NSF annualizes that salary to cover the 12 months IPAs will be working at NSF. By annualizing the 9 month salary on a straight basis, NSF makes the IPA's salary equal to what he or she would earn if they received a 12-month, rather than a 9-month, salary from their home institution. Under this process, an IPA earning $10,000/month at his home institution for 9 months, receives an annual salary of $120,000 (12 x $10,000) at NSF.

In 1998, NSF developed a modified formula to annualize IPA academic salaries which limited the amount NSF paid for the 3-month summer period to the maximum federal pay rate for that position. Unless the Deputy Director grants a waiver, NSF should use this modified formula. We found that for higher paid IPAs, individual science directorates and offices responsible for salary negotiations rarely used the modified formula in annualizing IPA salaries and routinely requested and received waivers. The financial impact of such waivers is significant given the number of IPAs making over the maximum federal amount (54 out of 184). For example, in 2012, NSF only used the modified formula to set the salary of less than half (39 percent) of applicable IPAs. NSF did not use the modified formula to annualize the salary of any IPAs at the executive level and many of the highest paid IPA program directors.

According to the human resource staff who provide administrative support for IPAs, NSF generally pays the higher salary amount as the IPA may not accept the assignment otherwise. We did not see any evidence that NSF had attempted to negotiate salary with IPAs. Greater use of the modified formula could result in cost savings as illustrated below.

Comparison of NSF's Methods for Annualizing Academic Salaries

Example: Executive level IPA earning 9-month salary of $225,935 at home institution	
Federal maximum salary for executive level: $179,700/12 months = $14,975/month	
Home salary of IPA: $225,935/9 months = $25,104/month	
Straight Annualization of IPA Salary	**Modified IPA Salary Calculation**
Monthly home salary x 12 months	Monthly home salary x 9 months + monthly fed max x 3 months
$25,104 x 12 = **$301,248**	$25,104 x 9 months + $14,975 x 3 months = **$270,861**
Difference in using modified calculation = reduced annual cost to NSF of **$30,387**	

Review IPAs with High Fringe Benefit Rates

The average fringe benefit rate for permanent employees is 26 percent, while the average IPA fringe benefit rate is 30 percent for the 184 IPAs we examined. While NSF relies on the home institution's certification that the information provided is truthful, complete, and complies with NSF requirements on the types of fringe benefits NSF will reimburse to the institution, NSF generally does not know the specific components included in an IPA's fringe benefit amount.

We found that NSF paid fringe benefits at a rate of 50 percent or more of salary to 11 of the 184 IPAs we examined. NSF should examine the components of fringe benefits for those IPAs whose fringe benefits rate exceeds a certain percentage determined by NSF. This examination would ensure that the fringe benefits do not include items that NSF does not permit. Further, NSF could consider requesting cost sharing for those IPAs with a fringe benefit rate that exceeds a certain percentage.

Recommendation

We recommend that the NSF Director take appropriate action to evaluate ways the cost of using IPAs can be reduced. Such actions could include studying expanded use of telework, greater cost sharing, limiting annualization of IPA salaries to the federal pay rate for the position, and reviewing fringe benefit rates that exceed an amount determined by NSF.

Other Matters

Long Term Vision and Overarching Champion for Rotator Programs

As this report makes clear, NSF invests a significant amount of time and money into bringing IPAs into the agency. While our audit was underway, the agency prepared a whitepaper to describe the value and benefits of IPAs to NSF (see Appendix D). The document produced details at a high level how IPAs contribute to NSF's mission and how the flexibilities afforded by the Intergovernmental Personnel Act help NSF attract leading scientists, engineers, educators, and others. It did not demonstrate, nor did we find during the course of our audit, that anyone at NSF was responsible for measuring and documenting the impact of rotating personnel, including IPAs, on the agency as a whole. As a result, the agency misses opportunities to assess the rotator programs' overall contribution to NSF's mission and goals. Given the number of IPAs at NSF at any given moment, their prevalence in the highest ranks of the agency and the added costs that result from their use, it would be helpful if NSF designates a champion responsible for overseeing and managing the rotator programs as a whole. Such a person could, among other things:

- Establish long-term goals for the programs and measure progress toward them,
- Examine IPAs' experiences at NSF in order to identify ways to improve the program and make it more attractive to potential candidates,
- Track and examine the cost of the programs to ensure that they are consistent across directorates and identify opportunities for savings, and
- Study the impact of having IPAs on federal employees and identify any actions that should be taken to minimize negative impacts.

Because our audit focused on the cost of IPAs, we are not making a specific recommendation to this effect. We include the suggestion in other matters for the agency's consideration.

NSF Policy for IPAs

Also during our audit, we noted that NSF's practices related to IPAs, such as the length of time IPAs are entitled to per diem, are not reflected in its policy on the administration of IPAs. NSF should revise its policy to reflect its practice of administering IPAs.

Manual Computation of IPA Salary and Fringe Benefits

The manual computation of IPA salary and fringe benefit, previously cited in our 2004 audit remains a concern. NSF agreed with the OIG's recommendation to develop a system to automate the IPA salary and benefits computation process; however, citing budgetary constraints and its inability to find a suitable system, NSF did not implement the recommendation. Although we did not specifically test for manual computational errors, we maintain that an automated tool could more accurately compute IPA salaries and other payments.

Summary of Agency Response and OIG Comments

NSF management concurs with our recommendation to evaluate ways the cost of IPAs can be reduced. NSF management agreed that all parties – NSF, the IPA and the home institution - benefit from authorities in the IPA Act. NSF responded that it routinely scrutinizes costs associated with the IPA program and that it agrees it is prudent to see if cost reductions can be achieved, especially in light of the austere budget environment. NSF also responded that it must balance cost reductions with possible effects on recruitment efforts.

We consider management's comments to be responsive to our recommendation. We look forward to receiving the Corrective Action Plan and working with NSF officials to confirm implementation.

We have included NSF's response to this report in its entirety as Appendix A.

OIG Contact and Staff Acknowledgements

Marie Maguire – Director of Performance Audits
(703) 292-5009 or mmaguire@nsf.gov

In addition to Ms. Maguire, Kelly Stefanko and Emily Franko made key contributions to this report.

Appendix A: Agency Response

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NSF

OFFICE OF THE
DEPUTY DIRECTOR

March 11, 2013

MEMORANDUM

TO: Ms. Allison Lerner
Inspector General, NSF Office of Inspector General

FROM: Dr. Cora B. Marrett
Deputy Director, NSF

SUBJECT: Audit of Cost Associated with NSF's Use of Intergovernmental Personnel Act Assignees

NSF appreciates receiving the findings and recommendations contained in the draft report *Audit of Cost Associated with NSF's Use of Intergovernmental Personnel Act Assignees*. IPAs contribute greatly to NSF's mission by providing up-to-date expertise and an influx of new ideas, helping to shape NSF's funding programs to support transformational advances across the frontiers of all fields of science, engineering and education. As noted in the report, all parties—NSF, the IPA, and the home institution—benefit from authorities in the IPA Act.

NSF routinely scrutinizes costs associated with the IPA program, particularly questioning unusual expenses or costs. NSF also agrees it is prudent to see if cost reductions can be achieved, especially in light of the austere budget environment that NSF and all Federal agencies currently face. Thus, NSF concurs with OIG's recommendation to evaluate ways the cost of IPAs can be reduced, fully realizing that we must also balance that consideration with the possibility that certain reductions might adversely affect our recruitment efforts or serve as a disincentive for IPAs to come to NSF.

NSF will submit a Corrective Action Plan after receipt of the final report. Please let me know if you have any questions.

Cc: Subra Suresh
Gene Hubbard
Marty Rubenstein
Larry Rudolph
Judy Sunley
Kay Rison
Clifford Gabriel

Appendix B: Objective, Scope and Methodology

We performed this audit to determine the additional costs of IPAs as compared to federal employees in equivalent positions. Our scope included all (184) full-time IPAs on-board at NSF as of August 1, 2012 and related costs. Auditors judgmentally selected August 1, 2012, as a current date at the time of fieldwork. We did not include NSF's approximately 40 Visiting Scientists, Engineers and Educators, who are also rotating personnel, in our audit scope.

To complete our objective, we utilized data on the costs of IPAs and permanent federal employees from a variety of NSF sources to calculate the additional costs NSF incurred; reviewed NSF and federal criteria to understand the rules governing IPA compensation; interviewed staff administering NSF's IPA program in NSF's Division of Human Resource Management to gain an understanding of their procedures with respect to administering IPA assignments; and confirmed this understanding by examining a judgmental sample of IPA files maintained by NSF.

We reviewed NSF's compliance with applicable provisions of pertinent laws and guidance, including:

- 5 CFR PART 334 – *Temporary Assignments Under the Intergovernmental Personnel Act*
- The U.S. Office of Personnel Management, *Provisions of the IPA Mobility Program*
- NSF Manual 14, *Personnel Manual*

We did not identify any instance of noncompliance with these laws and regulations.

Through interviewing NSF staff and reviewing documentation, we also obtained an understanding of the management controls over the administration of IPA assignees. We identified ways that cost associated with IPAs could be reduced. However, we did not identify any significant internal control deficiencies or instances of fraud, illegal acts, violations, or abuse.

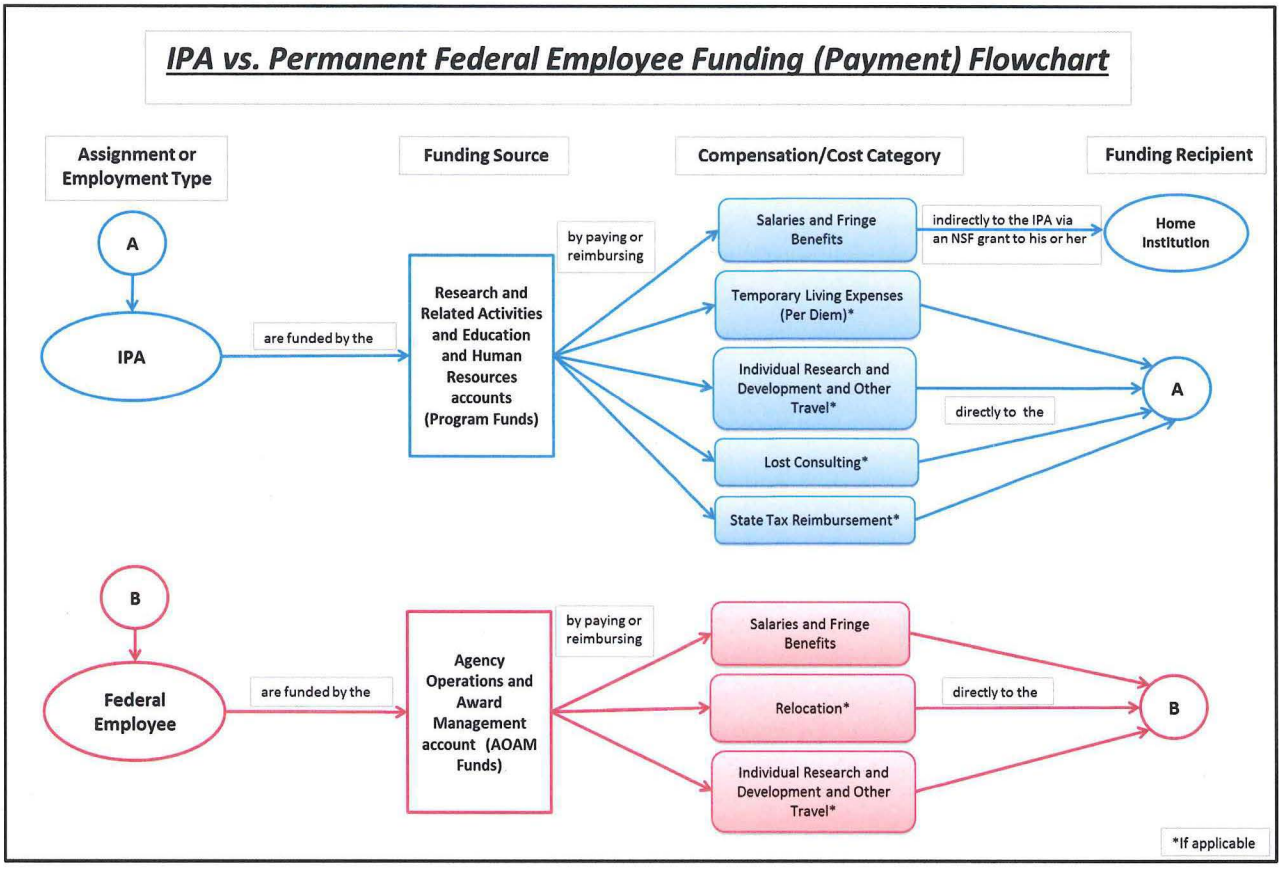
During the course of this audit, we relied on information and data received from NSF in electronic format that had been entered into a computer system or that resulted from computer processing. We tested the reliability of NSF's computer-processed data through a variety of means including manually reperforming calculations, matching numbers against original source documents, and corroborating results with NSF officials independent of the computer system. Based on our assessment, we concluded the computer-processed data was sufficiently reliable to use in meeting the audit's objective.

We conducted this performance audit between June 2012 and February 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our finding and conclusions based on our audit objective.

We believe that the evidence obtained provides a reasonable basis for our finding and conclusions based on our audit objective.

We held an exit conference with NSF management on February 7, 2013.

Appendix C: Flowchart Comparing IPA to Permanent Federal Employee Funding and Payment



Appendix D: NSF Paper on the Importance of IPAs

NATIONAL SCIENCE FOUNDATION
AND THE INTERGOVERNMENTAL PERSONNEL ACT

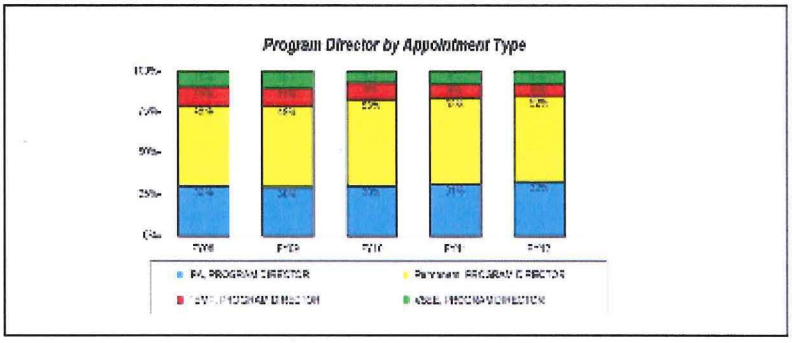
The mission of the National Science Foundation (NSF) is "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF achieves this vital mission by funding programs that support world-class research and education activities. To help guide and manage these programs, NSF relies upon the expertise of some of the Nation's leading scientists, engineers, and educators, thereby ensuring our Nation remains at the forefront of scientific and engineering discovery.

NSF attracts many of these outstanding leaders to government service through the authorities provided by the Intergovernmental Personnel Act (IPA), passed by Congress in 1971. IPAs (individuals who come to NSF under this authority) bring a constant influx of new ideas and fresh approaches to old problems. They help assess and fund high-risk/transformative projects and enable NSF to obtain the benefit of new and innovative research and management directions. NSF has other authorities[1] to hire staff on a rotating basis, but only the authorities under the Intergovernmental Personnel Act provide NSF with enough cost reimbursement capability to allow many of the Nation's most prominent scientists, engineers and educators to commit to public service for a short period of time.

While NSF's permanent staff are highly knowledgeable and capable, the ever changing global science, engineering, and education landscape requires NSF to continually complement its permanent staff with the expertise of individuals from the broader research and education community (mostly from academe). This is especially true for NSF, since it is the only major federal R&D funding agency without its own cadre of intramural (in-house) researchers. As a result, NSF benefits greatly by relying on the up-to-date expertise of leading external researchers to help shape its funding programs to support transformational advances across the frontiers of all fields of science, engineering, and education. NSF maximizes the programmatic strength of its staff through a mix of permanent and rotating staff. Currently, IPAs constitute roughly 30% of NSF's Program Directors. (See Figure)

NSF Program Directors by Appointment Type

NSF Employees (excludes NSB and OIG)



[1] In addition to the use of authorities provided through the Intergovernmental Personnel Act, NSF also uses other hiring authorities to attract rotating scientists, engineers, and educators (e.g., Federal Temporary Employees and Visiting Scientists and Engineers and Educators). All these authorities provide a suite of tools to ensure NSF has access to the Nation's significant pool of talent that can be brought to bear on achieving NSF's mission.

A 2004 report[2] by the National Academy of Public Administration (NAPA) recommends "NSF continue to use rotators [IPAs and other categories of temporary hires] in the positions of program officers, managers, and assistant directors." In this report, NAPA clearly articulates and reaffirms NSF's need for a steady infusion of new ideas from the research community to support NSF's unique role in the Nation's science and engineering enterprise.

While NSF benefits greatly from the infusion of new ideas from IPAs, NSF's outreach activities also benefit by having such prominent researchers serve as NSF "ambassadors." Experience shows that the best way to gain familiarity with an institution, its practices, and its culture is to spend time within the institution. By working side-by-side with other rotating staff and with the permanent workforce, IPAs learn about NSF, including the rigorous merit review process used to evaluate tens of thousands of grant applications. Consequently, when these leading researchers conclude their IPA assignments and return to their home institutions, knowledge of NSF policies and practices is not only transferred to their home institution, but also to the broader scientific, engineering and education community. Such knowledge transfer is critically important to retaining the community's trust in NSF's merit review procedures and in recruiting others to serve the Foundation as future staff, reviewers and advisors.

Attracting top level talent from our universities and elsewhere is a constant challenge. As identified in the 2004 NAPA report, NSF rotators often must maintain two households, interrupt research and education activities, and forego consulting income. In addition, the current federal pay ceiling at NSF is well below the salaries of many leading researchers that NSF needs to attract. This is especially true for IPAs serving NSF in an executive capacity. The statutory authorities governing the recruitment of IPAs provide options to lessen the economic impact of temporary service to NSF. Under the authorities of the Act, the IPA's home institution can be reimbursed by NSF to cover the IPA's full salary. Also, through NSF's Independent Research/Development (IR/D) program, IPAs have access to a limited amount of funding to support the continuation of some of their research-related activities. Even with the additional flexibility provided by the Act and the additional support provided by the IR/D program, NSF still struggles to attract the Nation's leading researchers to temporary public service.

In summary, the authorities under the Intergovernmental Personnel Act enable NSF to attract and utilize the expertise of the Nation's very best researchers and managers. Through the use of IPAs, as a complement to NSF's career staff and other rotating staff, the Foundation's programs have remained at the forefront of science, engineering, and education.

[2] National Academy of Public Administration. 2004. National Science Foundation: Governance and Management for the Future. 148 pp.