

# Semiannual Report to the Congress

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Number 17

April 1, 1997 Through September 30, 1997

Office of Inspector General

National Science Foundation

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# Letter to the National Science Board and the Congress

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This report describes our activities and accomplishments for the second half of FY 1997. Section 5 of the Inspector General Act of 1978, as amended, requires that the National Science Board transmit this report to the Congress within 30 days of its receipt, along with any comments the Board may wish to make.

Over the last 6 months, both OIG and NSF made significant efforts to comply with the Chief Financial Officers and Government Performance and Results Acts. NSF's strategic plan was submitted, on time, to the Office of Management and Budget and has been rated better than most other agencies by congressional evaluators. NSF is endeavoring to express its achievements using the measurable and observable reporting structure established by these laws.

This effort has not been easy, but it has provided NSF with a new framework for self-evaluation. The resulting introspection has also served, in many instances, to help NSF better explain why federally funded research as well as science and engineering education is a critical investment in the nation's future. My staff and I feel privileged to serve in an agency with such a vital mission. We look forward to continuing to work with management to promote the most effective and efficient use of federal funds to strengthen research and education in American science and engineering.

Linda Sundro  
Inspector General  
September 30, 1997

# Executive Summary

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## FINANCIAL AUDITS

We reviewed costs associated with logistical support for the U.S. Antarctic Program. We verified that NSF should save \$13 million by transferring support functions from the Navy to the Air National Guard and a civilian contractor. We also recommended, and NSF management generally agreed to effect \$2.8 million in additional savings (page 2).

We reviewed the formula used to determine the level of funding for research under the Small Business Innovation Development Act, and we concluded that the formula incorrectly relied upon expenditures for scientific education and program support. NSF agreed to redirect \$13 million over 5 years to fund other research priorities (page 7).

When reviewing the methods used by NSF to employ temporary scientists, we recommended the implementation of cost controls that would reduce program costs by more than \$10 million over 5 years (page 11).

We found that the fund created for the “enhancement of the intellectual infrastructure of the Internet” will total \$77 million by September 30, 1998 (page 15).

Our audit reports identified \$57 million in funds that can be put to better use, \$10 million in questioned costs, and \$15 million in cost sharing that may not be realized (page 61).

## INVESTIGATIONS

We referred five cases to prosecutorial authorities involving the diversion of NSF grant funds for personal use (page 24). NSF management took action on an investigative report from an earlier period involving NSF employees, and we issued two additional investigative reports involving conflicts violations (page 28). Investigative recoveries totaled \$400,000 (page 31).

## MISCONDUCT IN SCIENCE

We referred four investigation reports with recommendations for findings of misconduct in science to NSF’s Acting Deputy Director for adjudication (page 36). The Acting Deputy Director issued notices of proposed debarment in three matters we forwarded in an earlier period (page 42).

## INSPECTIONS

In an inspection of NSF’s Europe Office, we recommended the development of a performance plan tied to strategic goals. Three inspections of organizations that receive NSF funding identified deficiencies in the procedures used to disclose and resolve PI financial conflicts of interests (page 52).

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# Acronyms

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CFO	Chief Financial Officer
CPO	Division of Contracts, Policy and Oversight
DHHS	Department of Health and Human Services
DoC	Department of Commerce
EEERC	Earthquake Engineering Research Center
EPSCoR	Experimental Program to Stimulate Competitive Research
ESIE	Division of Elementary, Secondary and Informal Education
FAS	Faculty of Arts and Sciences
FASAB	Federal Accounting Standards Advisory Board
FFRDC	Federally Funded Research and Development Center
FTE	Full-Time Equivalent
GAO	General Accounting Office
GMRA	Government Management Reform Act
GPRA	Government Performance and Results Act
HRM	Division of Human Resource Management
INT	Division of International Programs
IPA	Intergovernmental Personnel Act
NIH	National Institutes of Health
NSB	National Science Board
OGC	Office of the General Counsel
OMB	Office of Management and Budget
OPP	Office of Polar Programs
ORI	Office of Research Integrity
PD	Project Director
PHS	Public Health Service
PI	Principal Investigator
PP&E	Property, Plant, and Equipment
RAA	Research and Administrative Assistant
R&D	Research and Development
SBIR	Small Business Innovation Research
SBE	Directorate for Social, Behavioral and Economic Sciences
SSN	Social Security Number
STTR	Small Business Technology Transfer Program
VSEE	Visiting Scientists, Engineers, and Educators

# Reporting Requirements

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This table cross-references the reporting requirements prescribed by the Inspector General Act of 1978, as amended, to the specific pages in the reports where they are addressed.

<b>Requirements</b>		<b>Page</b>
Section 4(a)(2)	Review of Legislation and Regulations	Throughout
Section 5(a)(1)	Significant Problems, Abuses, and Deficiencies	Throughout
Section 5(a)(2)	Recommendations With Respect to Significant Problems, Abuses, or Deficiencies	Throughout
Section 5(a)(3)	Prior Significant Recommendations on Which Corrective Action Has Not Been Completed	45, 71
Section 5(a)(4)	Matters Referred to Prosecutive Authorities	24
Section 5(a)(5)	Summary of Instances Where Information Was Refused	None to Report This Period
Section 5(a)(6)	List of Audit Reports	67
Section 5(a)(7)	Summary of Each Particularly Significant Report	Throughout
Section 5(a)(8)	Statistical Table Showing Number of Reports and Dollar Value of Questioned Costs	62
Section 5(a)(9)	Statistical Table Showing Number of Reports and Dollar Value of Recommendations That Funds Be Put to Better Use	61
Section 5(a)(10)	Summary of Each Audit Issued Before This Reporting Period for Which No Management Decision Was Made by the End of the Reporting Period	71
Section 5(a)(11)	Significant Management Decisions That Were Revised	None to Report This Period
Section 5(a)(12)	Significant Management Decisions With Which the Inspector General Disagrees	None to Report This Period



# AUDIT

The Office of Audit is responsible for auditing grants, contracts, and cooperative agreements funded by NSF's programs.

It reviews agency operations and ensures that financial, administrative, and program aspects of agency operations are examined. It conducts the annual audit of NSF's financial statements, which encompass over \$3.3 billion, and evaluates internal controls and data processing systems. The Office also assists in the financial, internal control, and compliance portions of OIG inspections. All audit reports are referred to NSF management for action or information.

The Office of Audit advises and assists NSF in resolving audit recommendations. The Office also acts as a liaison between NSF and audit groups from the private sector and other federal agencies by arranging for special reviews, obtaining information, and providing technical advice. The Office of Audit provides speakers and staff assistance at seminars and courses sponsored by NSF and other federal agencies and at related professional and scientific meetings.

# BETTER USE OF RESEARCH AWARDS

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## Functional Review and Cost Analysis for the U.S. Antarctic Program

The U.S. Antarctic Program is the nation's program for maintaining an active and influential presence in Antarctica. Through its Office of Polar Programs (OPP), NSF funds meritorious scientific research that is aimed at increasing our understanding of the Antarctic region and its relationship to the rest of the planet. With assistance and cooperation from federal agencies, commercial contractors, and other Antarctic Treaty countries, OPP plans, develops, manages, and funds the infrastructure and logistics required to support year-round and seasonal land- and sea-based research platforms.

The magnitude of spending for logistical support—over 60 percent of OPP's \$195 million budget in FY 1997—provides opportunities for us to identify ways of improving the efficiency and cost-effectiveness of the Antarctic Program. As a result, we are conducting a series of reviews of OPP's logistical support programs.

The Navy currently provides logistical support for the Antarctic Program and is reimbursed by NSF for those costs. In 1993, the Navy advised OPP that it would discontinue its logistical support services for the Antarctic by the end of FY 1999. Currently, two major transition efforts are underway: (1) transition of flight operations from the Navy to the Air National Guard (the Guard) and (2) transition of support functions from the Naval Antarctic Support Unit to OPP's contractor and the Guard. Our most recent review focused on the second transition program.

Coincident with these transitions, the National Science and Technology Council formed an Ad Hoc Working Group to review the U.S. Antarctic policy. The Working Group's 1996 report noted that significant savings had been realized from previous transitions, and that further savings could be realized from the two transitions described above. The Working Group recommended that an external panel of experts be convened to examine cost savings potentials and options and their consequences.

In response to this recommendation, NSF convened the U.S. Antarctic Program External Panel (the Augustine Panel). One of the Augustine Panel's conclusions was that the transition of support functions away from military providers offered opportunities to "reinvent" U.S. operations. The Augustine Panel recommended that functions provided by the Navy be reviewed with attention to transferring or eliminating functions.

OPP anticipated that the transition of support functions would result in cost savings, but it had not conducted a thorough, cost-based analysis. We offered our assistance to OPP for this task, and we worked closely with OPP managers in planning our review. A summary of our review and cost analysis of the transition of support functions now performed by the Naval Antarctic Support Unit in Christchurch, New Zealand, follows. We are currently conducting a similar review for the flight operations transition.

One of OPP's most important logistical tasks is maintaining a year-round presence at the Amundsen-Scott South Pole Station, one of three U.S. Stations in Antarctica (McMurdo and Palmer are the other two U.S.-sponsored Stations). The Augustine Panel recommended that the existing South Pole Station be replaced for economic, safety, and operational reasons and estimated that replacement would cost \$130 million. A portion of the cost must be funded through reductions in the cost of Antarctic logistical support. As OPP plans for modernization of the South Pole Station, it needs to track the amount and timing of transition-related logistics support savings.

Our review and analysis verified the cost savings OPP will realize because of the transition of Navy support functions in Christchurch. We noted significant efficiencies and cost savings achieved by the organizations providing services to the Antarctic Program. We also identified ways in which the Antarctic Program can operate more efficiently and cost-effectively and made recommendations that will result in additional savings. Management generally agreed with our recommendations, and steps are being taken to implement them. We estimated cost savings of nearly \$3.0 million in the first full year after the transition and \$16.0 million over a 5-year period (the 5-year projection includes a 5-percent increase per year), as illustrated below.

TABLE I PROJECTED COST SAVINGS		
Description	FY 1999	FYs 1999 Through 2003
<b>Transition Savings</b>		
Personnel Savings	\$1,574,600	\$8,700,800
Other Direct Cost Savings	926,500	5,119,700
One-Time Transition Costs	(628,900)	(628,900)
Net Transition Savings	1,872,200	13,191,600
<b>OIG Recommendations</b>		
Annual Savings	413,000	2,282,300
One-Time Savings	505,700	505,700
Net OIG Recommended Savings	918,700	2,788,000
<b>TOTAL SAVINGS</b>	<b>\$2,790,900</b>	<b>\$15,979,600</b>

## Transition Savings

### Personnel and Other Direct Cost Savings

The Navy operates and maintains a cargo and personnel staging base in Christchurch, New Zealand, that serves as the logistics pipeline to and from U.S. operations in Antarctica. In addition to providing services for the Antarctic Program, the Navy operates a small military base in Christchurch to support military personnel participating in the Antarctic Program.

We assisted OPP by cataloging the services the Navy currently provides, helping decide which of those services should continue after the Navy withdraws from the program, and determining whether the Navy's withdrawal will result in the need for new or different services. We worked with OPP to determine the most efficient way of obtaining those services, analyzed which entity would have operational budgetary responsibility for them, and determined how much they would cost.

We quantified the baseline of services currently provided and their cost. We also reviewed the services proposed by alternate providers and estimated the cost of those services. We validated the necessity of the proposed services and the reasonableness of cost estimates, and we determined whether additional economies could be achieved through alternate means of providing or obtaining necessary services and/or eliminating unnecessary services.

OPP reimburses the Navy \$6.6 million annually for the support it provides in Christchurch: \$2.4 million for personnel and \$4.2 million for other direct costs. We estimated that the Antarctic Program will save \$2,501,100 per year as a result of the transition: \$1,574,600 from reductions in personnel costs and \$926,500 from reductions in other direct costs. These significant savings are achieved by discontinuing some services, contracting with local providers for other services, and making more extensive use of seasonal employees.

### One-Time Transition Costs

We identified and quantified costs that would be incurred in carrying out the transition. We estimate one-time costs to be \$628,900. These costs include

- severance and annual leave benefits for New Zealand citizens employed by the Navy (\$523,700);
- building modifications and markings (\$35,000);
- permanent change of station costs for the contractor's U.S. citizen employee (\$32,000);
- site visits by contractor personnel (\$23,900);
- temporary duty pay for the Air Post Office supervisor (\$7,000);
- local employment law advice (\$4,000); and
- antenna upgrade and maintenance costs for the Armed Forces Radio and Television Service (\$3,300).

## OIG Recommendations

Our recommendations would result in additional savings of \$918,700: \$413,000 in annual savings and \$505,700 in one-time savings. Management generally agreed with our recommendations, including those described below.

### Annual Savings

**Billeting—Military.** All Navy personnel participating in the Antarctic Program are billeted—temporarily housed—in local hotels under Navy contracts. These contracts ensure that rooms will be available and lower the cost of rooms because they are paid for whether they are used or not. Guard personnel are billeted in the same hotels, but rather than using contracts, they use “blanket purchase agreements,” which are usually more expensive because they are paid for only when used. We recommended that hotel requirements for the Guard be secured by contract, which would save \$68,600 per year. We also recommended that OPP authorize only 1 night in Christchurch upon arrival from McMurdo Station, rather than the 2 nights the Guard has budgeted for, because all other participants are authorized only 1 night. The annual savings from hotel costs and meal and incidental expense costs will be approximately \$183,700.

**Billeting—Grantees.** The contractor reserves hotel rooms for scientists, but scientists pay their own expenses and are later reimbursed from their research grants. The indirect costs associated with hotel funding are approximately \$131,250 per year. We recommended that OPP remove hotel funding from research grants and task the contractor to reserve and pay for scientists’ hotel rooms. The contractor estimates that to perform this function, it would need to add one position to its Christchurch operation, but even so, the net annual savings to OPP will be approximately \$116,200.

**Airline Ticketing.** Airline tickets that are purchased 14 days in advance or earlier generally cost one-third less than otherwise. If an additional 10 percent of scientists purchased their tickets 14 days in advance of their travel, the Antarctic Program would save \$42,000 per year. We recommended that OPP ensure that tickets are purchased 14 days before deployment.

## One-Time Savings

**Extreme Cold Weather Clothing.** The Guard's proposed budget includes \$275,600 to purchase extreme cold weather clothing for its personnel. An inventory of excess military clothing conducted at our request showed that there was enough clothing to meet the Guard's needs. We recommended that the excess clothing be made available for use by the Guard instead of purchasing new clothing.

**Severance Pay and Annual Leave.** The Navy planned to charge OPP the severance pay and annual leave costs for employees not paid by OPP. We recommended that the Navy deduct the \$138,900 associated with these employees. We also recommended that the Navy refrain from hiring additional or replacement personnel; make efforts to assist personnel in obtaining alternate positions; and encourage the use of accumulated annual leave, especially during the off-season.

**Space Available Income.** The Navy rents barracks on a "space available" basis. Although OPP pays most of the costs to support the barracks, the net income—\$91,200—has not been credited to OPP. We recommended that OPP direct the Navy to transfer the net income to OPP or apply it to offset other expenses.

## Next Phase of Our Review

In the current review, we verified the savings that OPP will realize because of the withdrawal of the Naval Antarctic Support Unit from Christchurch, New Zealand. We also made recommendations to improve the efficiency and cost-effectiveness of Antarctic support operations in Christchurch. Our work has enabled OPP to confidently incorporate the anticipated savings into its budget plans for the future.

The next phase of our review will concentrate on the transition of flight operations. The Guard will assume responsibility for flight operations from the Navy in March 1998. The Navy will be involved in the Antarctic Program for 1 more year, assisting the Guard during the 1998/1999 season.

We worked collaboratively with OPP to define the scope of our next review, and we agreed to conduct a functional review and cost analysis of the transition of flight operations from the Navy to the Guard. We have begun our review and analysis and are scheduled to conduct a site visit to Antarctica during the upcoming austral summer. We will verify the costs and savings and identify ways of improving the efficiency and cost-effectiveness of Antarctic flight operations. Because of the high costs associated with flight operations, we are hopeful that this phase of the review will identify additional issues that will prove to be important to OPP in planning and budgeting for future logistics support and construction.

## **Budget for Small Business Innovation Research and Technology Transfer Programs**

NSF is a participant in the federal Small Business Innovation Research (SBIR) program, which provides funds to small businesses to develop innovative technologies with commercial potential. The SBIR program is funded with a specific percentage set-aside of each agency's extramural research and development (R&D) budget, in agencies with extramural R&D budgets that exceed \$100 million. In 1983, the set-aside was 0.2 percent, and it has increased gradually to reach 2.5 percent in FY 1997. Congress also authorized a smaller set-aside, currently 0.15 percent of the extramural R&D budget, for the Small Business Technology Transfer (STTR) program, which was designed to stimulate cooperative research and development between small businesses and research institutions.

To determine the amount of the set-aside from the R&D budget, Congress defined "research" or "research and development" as "systematic, intensive stud[ies] directed toward greater knowledge or understanding of the subject studied," or a systematic application of that knowledge to produce new technologies. We found that many of the expenditures included in NSF's R&D budget did not fit this definition.

Specifically, some of NSF's education and training activities, for example, undergraduate, graduate, and postdoctoral education and training designed to support "educational creativity," maintain the "supply of scientists and engineers," and help "develop a scientifically literate populace," are included in the R&D budget that is used

to calculate the funds to be set aside.

Although research, training, and education are tightly linked in all NSF programs, these activities do not conform to the statutory definition of R&D and should not be characterized as R&D. Similarly, we found that "program support costs," which include payments for scientists temporarily working for NSF under the Intergovernmental Personnel Act, travel by panelists, and other administrative expenses, are also included in NSF's R&D budget. These costs are also inconsistent with the statutory definition of R&D and should be excluded from the budget used in determining the SBIR and STTR set-asides.

Accordingly, we recommended that, for the purpose of calculating the SBIR and STTR set-asides, NSF exclude \$100.61 million (\$58.36 million in education and training funds and \$42.25 million in program support costs) from the R&D budget amount used to calculate the set-asides. By so doing, NSF would more accurately allocate funds to the SBIR and STTR programs. As a result of these exclusions, the annual SBIR and STTR set-asides would be reduced by approximately \$2.5 million and \$150,000 (2.5 percent and 0.15 percent of \$100.61 million), respectively. Over a 5-year period, \$13.25 million that would have been used for these set-asides would be available for NSF to use for the highest priority programs to further scientific research and education.

NSF's Director "concur[red] with [our] recommendations regarding the exclusion of items from the extramural R&D budget base used to calculate the SBIR and STTR set-asides," and stated that "this will lead to better utilization of NSF resources." NSF staff is now defining the new base for SBIR and STTR calculations.

## **Analysis of Research Center Proposal Identifies Excessive Costs**

We reviewed proposed costs submitted in response to NSF's new Earthquake Engineering Research Center (EERC) program solicitation by the research foundation that administers federal awards for a large northern state university. Three research centers will be funded under the new EERC program. The research centers will seek to complement and build on the research and educational activities of individual research awards by emphasizing a multidisciplinary, team approach.

NSF has tentatively selected this proposal for continued support of the research center (the Center), which is one of the three centers under the EERC program. We assisted NSF management by analyzing the Center's cost proposal to recommend the amount of funds the Center needs to accomplish the award's objectives. We analyzed the proposed costs to determine whether they were necessary and reasonable and whether less costly means of accomplishing the objectives could be adopted.

The Center's proposed administrative costs, as a percentage of total project costs, will be 14 percent higher than proposed costs under its current award. Administrative and clerical costs are higher because the Center intends to maintain the same number of administrative positions despite a 47-percent reduction in total funding over the next 5 years. We estimated that a proportionate reduction in administrative costs to the same level as the 1991 award (25 percent of the total project costs) would increase the funds available for research by as much as \$2.8 million over 5 years.

The Center was funded by NSF on September 30, 1997. Foundation staff recognized the need to address the administrative and clerical costs questioned in our review. Accordingly, NSF withheld final approval of these costs in the cooperative agreement supporting the Center until the allowability of these costs is determined in accordance with NSF's audit resolution process.

We believe the Center should reduce those administrative and clerical costs that are less crucial to its mission so that more projects are available for research. The Center can reduce non-research related expenditures by reviewing and reducing such costs that are not typically found at other NSF research centers. We identified several opportunities to reduce costs of this type by as much as \$2.355 million over 5 years.

- The Center proposed 21 administrative and clerical positions. We compared this total with the number of administrative staff at other NSF-funded research centers. We found that the Center proposed 16 more administrative positions than we identified at other NSF research centers. If the Center phased-out administrative functions that are not typically found at other NSF research centers, administrative and clerical costs could be reduced by as much as \$1.708 million over 5 years.
- The Center produces an informational newsletter that it mails free-of-charge to subscribers four times a year. Since the newsletter is already available free-of-charge on the Internet, we recommended that the Center discontinue the paper version, publish the newsletter semiannually rather than quarterly, or begin



charging a subscription fee to recover publication costs. For example, over 5 years, discontinuing the paper version of the newsletter would save \$142,500, publishing the newsletter semiannually would save \$116,250, or charging a subscription fee could increase project income by as much as \$232,500.

- The Center provides earthquake engineering information services to research and practicing engineers. Many of the information services the Center provides are duplicated by a second NSF-funded information service. We recommended that the Center coordinate its activities with other earthquake engineering research centers and information services to reduce the duplication of these costs. This action could reduce the Center's costs by as much as \$414,900 over 5 years.

NSF management is reviewing our recommendations.

## **Preaward Analysis of Two Proposals Identifies \$8 Million in Potential Savings**

We assisted an NSF division by analyzing proposals from two supercomputing centers that had been selected by a technical review panel for funding. We reviewed the proposal materials and interviewed staff at both universities to help NSF complete its financial review of these proposals before issuing the awards.

**Potential Savings.** We identified more than \$8 million in administrative costs over the 5 years of the awards to the two supercomputer centers that can be used to directly support scientific research.

- **\$5 Million in Sales Tax.** We recently recommended that significant NSF funds could be saved by taking steps to avoid payment of state sales taxes on equipment purchased by awardees with federal funds (OIG 96-2115, *Recommended Amendments to NSF Procedures to Avoid Paying Costs Associated With State Taxes*, September 27, 1996). NSF management agreed with two of our three recommendations and agreed to direct awardees to take advantage of all applicable exemptions. One of the potential awardees is located in a state that imposes a sales tax on equipment purchased with federal funds. Based on the value of purchases to be made by this awardee, NSF could save nearly \$5 million if sales tax exemptions could be secured.
- **\$2 Million in Salaries and Fringe Benefits.** Both proposals budgeted annual percentage increases that we believe are excessive. One proposal includes a 5-percent increase for all staff, while the other includes increases of 4.6 percent for senior staff and 3.6 percent for other staff; "staff" includes administrative personnel and faculty. Federal employees, on the other hand, receive approximately 3-percent increases annually, and a survey conducted by the *Chronicle of Higher Education* revealed that professors receive average annual increases of 3 percent. We recommended that NSF limit annual increases to 3 percent, leading to a savings of approximately \$2 million.
- **\$1,125,000 in Fees.** One proposal included a subcontract valued at \$45 million with a 5-percent fee. Fees are not prohibited, but NSF does not usually pay a fee on awards. We recommended that NSF require that the subcontractor justify its request for a fee

and that NSF negotiate to reduce the fee. If, for example, NSF negotiated to reduce the fee to 2.5 percent, it would save \$1,125,000.

**Cost Sharing.** Both sites proposed significant cost sharing. In the current budget climate, this leveraging of funds is critical to NSF's mission in that it allows NSF to fund additional projects than would otherwise be possible. We recommended that NSF ensure that the promised cost sharing is identified in the award documents as a requirement.

NSF management is reviewing our recommendations.

## **Other Funds Put to Better Use Reviews**

### **Review of Indirect Costs Results in Substantial Cost Savings**

In [Semiannual Report Number 14 \(page 60\)](#), we reported on our inspection at a private, nonprofit research institution (the Institution) in the northeast. The Institution conducts economic research on issues relevant to the federal government and industry. NSF is the Institution's cognizant audit agency and sets its indirect cost rate. Our review of the Institution's costs that indirectly support research identified several cost items that we believed should be classified as direct costs and excluded from the indirect cost pool. We recommended that NSF's financial and program managers recalculate the Institution's indirect cost rate.

NSF managers reported that they met with Institution representatives and recalculated the indirect cost rate excluding the cost of honoraria, publications, and program director compensation expenses from the indirect cost pool. NSF's adjustments resulted in a revised indirect cost rate of 53 percent, an 11-percent reduction for all new awards.

We had previously reported savings to NSF of \$800,000 over 5 years. Based on the new indirect cost rate approved by NSF, we estimate that NSF should realize additional savings of \$784,000 over 5 years. Additional savings to the government as a whole should be about \$2.76 million over 5 years.

## **Funds to be Put to Better Use**

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**Funds the Office of Inspector General has identified in an audit recommendation that could be used more efficiently by reducing outlays, deobligating funds, avoiding unnecessary expenditures, or taking other efficiency measures**

## ASSESSMENT OF INTERNAL FUNDS

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### Hiring Scientists in Temporary Positions

To make “cutting edge” decisions about which research and education projects to fund, NSF supplements its permanent pool of scientists with highly qualified researchers and educators borrowed from universities, industry, or other organizations. NSF uses two special programs for employing temporary scientists: the Intergovernmental Personnel Act (IPA) Mobility Program and the Program for Visiting Scientists, Engineers and Educators (VSEE). It is both appropriate and necessary for NSF to use these legislated programs as a source for personnel because they enable NSF to constantly refresh its permanent pool of scientists with individuals from the nation’s finest institutions. We reviewed these programs and identified cost controls that, if implemented, would result in over \$10 million in savings over 5 years that could be used to support additional personnel or scientific research and education.

**Salaries Comparable to Federal Levels.** Because IPAs remain employees of their home institutions, their salaries, particularly when annualized, may be considerably above the levels that would be paid to permanent federal employees in comparable positions. We found that 32 percent of IPAs had salaries above the range available for federal employees in comparable positions. Indeed, 24 IPAs, 16 of whom were program directors, had salaries above the pay level of a presidentially appointed Deputy Director (\$123,100). We recommended that NSF not contribute more to an IPA’s salary than it would pay a federal employee in a comparable federal position. Over 5 years,

this would result in the availability of \$4.2 million that can be used to hire additional personnel or fund additional scientific research and education.

**Annualization of Academic Year Salaries.** In both the IPA and VSEE programs, it has been NSF’s policy to ensure that the total compensation of a temporary scientist at NSF is equivalent to the compensation the scientist would have received at his or her home institution. To achieve this goal, NSF attempts to match salaries that temporary scientists would have received at their home institutions. However, for scientists who come to NSF from 9-month academic appointments, NSF “annualizes” the salaries to 12 months, assuming that the scientists could have earned 3 months of summer salary.

Although the idea of annualization is to put scientists on 9-month appointments on a par with those with full year salaries, we found that NSF’s current method of annualizing to 12 months increases the compensation of those scientists who come to NSF from 9-month appointments relative to those from 12-month appointments. After their salaries were annualized to 12 months, IPAs and VSEEs with academic year salaries at their home institutions earned an average of about \$17,000 (20 percent) more than those who come to NSF from positions with 12-month salaries.

A more equitable result is obtained by annualizing to 11 months using NSF's current rule for summer salaries on NSF awards. Individuals awarded summer salaries under NSF awards receive a maximum of 2 month's pay, *not 3*—this is referred to as the “two-ninths rule.” Annualization to 11 months would give a temporary scientist about the same salary that he or she would have received by staying at the home institution and working during both the academic year and the summer. We learned that the two-ninths rule was used to annualize the salaries of temporary scientists at NSF until 1984, but was apparently changed because of certain restrictions on cost-of-living adjustments that are no longer in place. We recommended that NSF return to the two-ninths rule for annualizing the salaries of IPAs and VSEEs who come to NSF from academic year appointments. Over 5 years, this would result in the availability of \$3 million that can be used to fund additional personnel or other aspects of scientific research and education.

**Cost Sharing.** Current NSF policy requires that IPAs' home institutions contribute 15 percent of their salary and fringe benefits as cost sharing. However, we found that, on average, IPAs' home institutions contributed only about 5 percent of the costs of IPAs. We recommended that NSF adhere to its existing cost-sharing policy, requiring a minimum 15-percent contribution from the home institution to IPA salary and fringe benefits, by establishing a preference for IPA assignments in which cost-sharing standards are met and enforcing strict criteria for approving variances from the cost-sharing policy.

**Length of IPA Service.** During our review, we also found certain circumstances under which IPAs remained at NSF longer than the 4 years specified by the Intergovernmental Personnel Act. IPAs are intended to supplement the skills and knowledge of permanent federal staff by bringing in highly qualified individuals—*temporarily*—from outside the government. If a position requires continuity of more than 4 years, NSF should make the individual filling that position a permanent federal employee, not an IPA. Accordingly, consistent with the statutes and regulations on IPA service, we recommended that IPAs be limited to 4 years of service during any 10-year period.

**Overall Savings.** We estimate that, if NSF implements all of our recommendations, the total savings would be at least \$2.1 million, annually. Over 5 years, this would amount to at least \$10.5 million available to fund additional personnel or scientific research and education.

NSF management is reviewing our recommendations.

## Agency Financial Statement Issues

We are working with NSF management to comply with the Chief Financial Officer (CFO) and Government Management Reform (GMRA) Acts, which are intended to bring more effective general and financial management practices to the government by improving systems of accounting, financial management, and internal controls. In [Semi-annual Report Number 16 \(pages 2 through 9\)](#), we reported that we had completed the audit of NSF's first agency-wide financial statements for FY 1996.

Our FY 1996 audit resulted in a "qualified" opinion. A "qualified" opinion indicates that, except for one or more significant problems, the statements fairly present the entity's financial position. We "qualified" our opinion because NSF had not maintained an adequate system to accurately and completely account for its approximately \$920 million in capitalized property, plant, and equipment (PP&E). The PP&E under discussion includes NSF-owned assets in the hands of grantees in three categories: the U.S. Antarctic Program, Federally Funded Research and Development Centers (FFRDC) that are principally funded by NSF, and colleges and universities.

During this reporting period, NSF management and the OIG sought guidance from the Federal Accounting Standards Advisory Board (FASAB), the Office of Management and Budget (OMB), and the General Accounting Office (GAO) to determine whether the NSF-owned assets held by grantees and contractors should be treated as research investments and reported as expenditures in the year of acquisition rather than identified as assets in NSF's balance sheet.

FASAB, OMB, and GAO have reviewed the issues and facts presented. FASAB has advised us that it expects to soon issue formal, interim guidance to NSF.

In addition to concerns about PP&E, our audit identified material weaknesses in NSF's internal control systems. These weaknesses included the way the agency reported accrued liabilities and advances between federal agencies. We were also concerned about reportable conditions related to systems for reporting performance measures and contingent liabilities. We performed follow-up reviews of these areas and met with NSF management to discuss its plans to incorporate additional procedures to address these concerns in the FY 1997 financial statement compilation process.

One of the outcomes of our audit was the identification of an area in which we could improve our operations. That resulted in a recommendation focused on the requirements of OMB Circulars A-50, *Audit Follow-up*, and A-133, *Audits of Institutions of Higher Education and Other Non-Profit Institutions*, for more timely review and resolution of audit reports. We are required to maintain follow-up systems that assign a high priority to timely resolution of all NSF audit recommendations. As a result, we improved our Audit Resolution Tracking System during this reporting period.

We reviewed our requirements and redesigned the Audit Resolution Tracking System using an “off-the-shelf” software application package. The new Audit Resolution Tracking System will provide electronic preparation of all current audit reports and provide for future reporting requirements with greater accuracy, timeliness, and ease. This upgraded software, coupled with revised procedures for reviewing audit reports, will satisfy all of the audit recommendations.

## ONGOING ISSUES

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### **Fund for Internet Infrastructure Should Total More Than \$77 Million**

In [Semiannual Report Number 16 \(page 10\)](#), we described NSF's cooperative agreement with a commercial company that authorizes the company to allocate Internet addresses. The company registers names used to direct communications traffic on the Internet. The registrants can choose a unique Internet name—a domain name—as a distinctive and easily remembered name.

Under the terms of the cooperative agreement, the company charges a \$100 registration fee for each domain name issued for the initial 2-year period, and it charges \$50 per year thereafter. The company is to retain 70 percent of the revenue collected for operating expenses. The remaining 30 percent is to be set aside in a separate interest-bearing account “for the preservation and enhancement of the ‘Intellectual Infrastructure’ of the Internet.”

Based on registration statistics through December 1996 and a rough estimate of the company's collection rates, we estimated in our previous report that the fund will grow to \$60 million by September 30, 1998. Using renewal and initial registration statistics through the first half of 1997, as well as more recent estimates of the company's collection rates for registration fees, we now estimate that over \$77 million will be deposited in the fund through the period ending September 30, 1998 (including at least \$3 million in interest earnings).

In this reporting period, we reviewed the company's financial practices concerning the fund. We found that the company did not apply its cash management practices consistently to itself and to the fund. The company deposited receipts into its own interest-bearing bank account on a daily basis. However, before depositing the fund's share of fees, the company held the fees in its own interest-bearing accounts for an average of 30 days. Transfer of these fees in a more timely manner to the fund's interest-bearing bank account would have earned an additional \$81,400 for the period examined. We projected that, if the company continues its current practices, the fund will lose another \$175,000 of interest income by September 30, 1997. The company argued that monthly deposits are in accordance with generally accepted business practices. However, we believe the company should deposit the appropriate share of fees in the fund's account on a daily basis because that is the practice the company uses for its own funds.

Indirect costs of \$42,307 were also incorrectly charged to NSF. The company believes the indirect costs charged more accurately reflect its true indirect costs. However, we found that the company had agreed to a lower indirect cost rate when it entered into the cooperative agreement with NSF. We also questioned \$39,678, which was used to purchase equipment. Although the company believes the equipment was a reasonable cost of the project, it acknowledges it had agreed not to charge equipment costs to the award.

NSF management will make the final decision concerning the questioned costs identified in our audit.

## Potential Savings Identified at Nonprofit Atmospheric Research Organization

We identified over \$2.9 million in savings over 5 years related to excessive costs for employee separations and facility operations at a nonprofit atmospheric research organization. We also followed up on a prior issue related to federal agencies unnecessarily providing management fees to the nonprofit organization.

### Current Issues

#### **Savings in Employee Separation Costs.**

NSF could reduce costs by requiring that the nonprofit organization reduce the negotiated separation benefits paid to employees, reallocate severance costs that were incorrectly charged to NSF programs, and reduce the fringe-benefit rate applied to severance costs. Discussions of these findings follow.

- The nonprofit organization can avoid costs by limiting the use of negotiated agreements to pay separation benefits. The organization negotiated and paid employees a separation benefit, which was in lieu of its severance pay and termination procedures for inadequate job performance. The organization negotiated and paid, without reasonable justification, amounts that were more than the amount the employees were entitled to as severance pay. The organization also negotiated and paid employees' separation benefits when employees were not entitled to severance pay because the employees were not meeting performance standards. The organization should have avoided paying any benefit to these employees by terminating their employment through its discipline and probation process. Savings to

NSF could total \$162,423 annually or \$812,115 over 5 years as a result of NSF restricting the use of negotiated separation agreements.

- The nonprofit organization charged severance costs directly to NSF-funded programs. The organization did not follow established federal cost principles that require that severance costs be recovered through indirect cost rates. The required method equitably allocates the costs to all of the organization's programs in which employees worked. Average annual savings to NSF would be about \$297,000 or \$1,485,000 over 5 years.
- At the time employees departed, the organization charged NSF \$314,690 by applying its full-fringe benefit rate, which included vacation, holiday, and sick leave, even though these employees did not receive such benefits at the time of their departures. We recommended that NSF recover these funds.

#### **Other Savings in Facility Operations.**

NSF could reduce costs for the use of a building, airplane hangar, vehicles, and a condominium. Discussions of these findings follow.

- The government will overpay for a newly purchased building because the organization does not plan to reduce its building costs by the salvage value. The organization's officials decided not to deduct salvage value from the building costs because the organization believes the building will have no value at the end of its depreciation period. However, the organization maintains its buildings in excellent condition, and three of the four



commercial real estate appraisers that we contacted established salvage value for this building at about one-half of the building's purchase price. We estimated that if this salvage value is used, the building's depreciation costs will be reduced, and NSF could save about \$52,000 annually or \$260,000 over the next 5 years.

- The organization included as part of the charges for airplane hangar costs, bond principal and interest on buildings that were not related to the support of the hangar. If the organization discontinues allocating these costs to the hangar, NSF could put to better use about \$13,000 a year or \$65,000 over 5 years.
- The organization underutilized several vehicles and should reduce the number of vehicles in its fleet. The organization also underutilized its condominium in Washington, D.C., by allowing only top-level management, such as the president and vice-presidents, to use the facility. Savings in correcting these situations would be, at a minimum, \$9,200 annually or \$46,000 over 5 years.

The organization generally disagreed with our recommendations, but NSF's management will make the final decision regarding these matters.

## Prior Issues

**Management Fees.** In [Semiannual Report Number 15 \(page 14\)](#), we explained that federal agencies pay approximately \$900,000 annually in management fees to this nonprofit organization. The organization stated that it needs these fees "to cover legitimate expenses which are not reimbursed in connection with its grants and cooperative agreements with federal agencies." Contrary to our recommendation, both NSF and other federal agencies decided to continue paying these fees.

Federal funds paid as fees are treated as the organization's funds and may be used in any manner the organization considers appropriate. Some of the funds were used to purchase equipment. The depreciation of the equipment was subsequently included in the calculation of indirect costs that apply to federal awards. In this reporting period, NSF management decided that it did not agree with our recommendation to exclude the depreciation of the equipment from the calculation of indirect costs.

NSF management also decided in this reporting period that, because fees are not governed by federal cost principles, NSF will not require that the organization account for their use.

### **Acquisition of Supercomputer**

**Postponed.** In May 1996, the organization announced, following a procurement competition for additional computer support, that it intended—with NSF funds and pending NSF approval—to enter into a lease agreement to obtain a Japanese supercomputer. Questions arose immediately as to whether the Japanese supercomputer was being provided below the manufacturer’s cost and might be subject to antidumping duties. In response to NSF’s request, the organization provided NSF with information obtained from the suppliers of the Japanese supercomputer purporting to demonstrate that the offer was not priced at less than fair value. In June 1996, NSF forwarded this information to the Department of Commerce (DoC) as the agency that addresses trade issues. NSF asked DoC to notify NSF “in the near future” if DoC was going to initiate a formal investigation.

In July 1996, a U.S. manufacturer of supercomputers filed an antidumping petition with DoC and the International Trade Commission. In August 1996, DoC initiated an investigation to determine whether Japanese supercomputers were being offered for sale at less than fair value. NSF’s Director then announced that NSF would not act on the organization’s proposed procurement until the DoC concluded its investigation.

DoC subsequently determined that the Japanese company’s pricing for its bid to the organization constituted a case of “dumping,” meaning that the Japanese company had set its price artificially low to gain a market advantage. The International Trade Commission determined that the DoC’s investigation was fair and conducted in compliance with the rules and procedures of the U.S. antidumping law, and it subsequently determined that the U.S. supercomputer industry had been injured or threatened with injury. Following this ruling, DoC is set to impose substantial antidumping duties on the import of Japanese supercomputers. Attempts by the Japanese manufacturers to prevent DoC’s investigation, through an action filed in the Court of International Trade and a complaint filed with DoC’s OIG, were unsuccessful.

Following DoC’s announcement of its determination, NSF’s Director announced that, because NSF “is deeply committed to the principle of fair and open procurement practices,” it would not approve the organization’s procurement of the Japanese supercomputer. NSF’s Director said that “NSF will work closely with the [organization] on how to proceed to obtain the additional supercomputing capacity it needs.”

## National Science Board to Address Non-Competition Policy

In [Semiannual Report Number 16 \(page 75\)](#), we reported that, at the request of the Chairman of the House Committee on Science, we reviewed a number of allegations of violations of NSF Important Notice 91. Important Notice 91 prohibits the use of NSF-supported research instrumentation or facilities to provide services for a fee in direct competition with private companies that provide equivalent services. In a report dated October 30, 1996, we reported our finding that NSF and its awardees have policies and practices inconsistent with Important Notice 91 and recommended that NSF develop a consistent and enforceable policy regarding the use by the for-profit sector of different types of NSF-funded equipment and facilities and procedures to evaluate and resolve complaints of violations of the policy. NSF's Director advised us that he planned to refer the issue of inconsistent policies governing the use of NSF-funded equipment to the National Science Board (NSB) for its consideration. More recently, NSF management noted that the NSB "should be informed of the present situation" and accordingly contemplates "making a recommendation to the NSB on this subject for consideration at an upcoming Board meeting."

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### Questioned Cost

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**A cost resulting from an alleged violation of law, regulation, or the terms and conditions of the grant, cooperative agreement, or other document governing the expenditure of funds. A cost can also be "questioned" because it is not supported by adequate documentation or because funds have been used for a purpose that appears to be unnecessary or unreasonable**

# FINANCIAL AUDIT RESULTS

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## **Audits of School Systems Identify \$1.8 Million in Questioned Costs and \$13.9 Million in Cost-Sharing Commitments That May Not Be Met**

In a continuation of our audits of school systems and educational organizations ([Semiannual Report Number 16, pages 26 and 27](#)), we completed audits of eight additional school systems and one educational organization during this reporting period.

Our audits included 24 awards to 4 grantees from the Directorate for Education and Human Resources, the NSF directorate primarily responsible for promoting mathematics, engineering, and technology education. We questioned \$1,823,967 of the claimed costs.

Our findings included the following.

- We identified \$849,513 in unallowable or inappropriately claimed costs for salaries and wages, participant support, sub-contracts, fringe benefits, consultants, and other cost categories. We found, for example, that one grantee charged salaries and wages to an award for several employees, who the project director confirmed, did not participate in the project and should not have been charged to the award. Another grantee charged tuition costs and teacher stipends for graduate course work that had been proposed as part of the grantee's cost-sharing contribution. A third grantee charged expenses to NSF awards related to consultant costs that had not been incurred and consultant services in excess of the maximum rate established by federal regulations.

- We also identified \$768,425 that was related primarily to personnel compensation and benefits, subcontracts, and consultant costs for which grantees could not provide adequate documentation (unsupported costs). We found, for example, that two grantees claimed salaries and benefits for a project director, instructors, and contract employees, but did not have evidence of the time charged to the projects. One grantee did not have documentation showing that subcontract costs charged to the award were consistent with the award's terms and conditions. Another grantee could not provide supporting documentation proving costs charged to NSF awards for logistics, student identification, and video services were necessary and reasonable activities related to the projects.

- We found that one grantee claimed costs of \$206,029 in excess of costs actually incurred.

We also identified cost-sharing commitments related to ongoing projects totaling \$13,897,753 that are "at risk." These awardees have not participated in the cost of the projects to the extent expected at this stage of the awards, and there is no evidence that the awardees are likely to meet these commitments before the projects are completed. We are concerned that the scope of the awards as originally proposed to NSF may significantly change when grantees fall short of meeting their cost-sharing commitments. Under these circumstances, we advised NSF management to work with the awardee to ensure that the projects' objectives are met by either revising the projects or

obtaining assurances that the awardees will meet their financial commitments.

Although four of the directorate's divisions provided support to the institutions audited, 42 percent of the questioned costs and 22 percent of the audited expenditures were related to awards supporting teacher development activities administered by one of the divisions. These awards fund professional development projects that are intended to increase teacher competence and develop a supportive school culture that empowers teachers to engage students in enriched and more challenging science, mathematics, and technology education programs.

Our analysis of these audit results indicates that the systems used by institutions receiving these awards may not be adequate to ensure that awards are administered in compliance with NSF and other federal requirements or that award funds are used for their intended purpose. These grantee institutions need additional guidance and oversight from the cognizant NSF program and administrative officers in administering their federal awards.

NSF management will resolve these audit issues.

## **Summary of Questioned Costs From Other Audits and Surveys**

Before conducting an audit, we usually perform preaudit surveys. The preaudit survey is a limited review of an institution's accounting system and grant expenditures to determine whether further auditing is required. Based on the results of our preaudit surveys, we may conduct a full financial audit or an audit that focuses on specific cost categories. Questioned costs can result both from audits and preaudit surveys.

In addition to those audits mentioned elsewhere in this report, we conducted 11 preaudit surveys covering 47 awards, 4 of which resulted in audits. These activities yielded \$141,655 in questioned costs and revealed several compliance issues. Some of the findings are highlighted below.

- An audit of a southwestern nonprofit organization yielded questioned costs of \$38,681 because costs were incurred and billed to NSF after the project was completed and the organization fell short of its cost-sharing commitment.
- An audit of a northeastern laboratory yielded \$4,312 in questioned costs related to indirect costs, travel, and expenses charged to NSF awards in excess of recorded costs.
- An audit of a small southwestern communications company yielded \$49,194 in questioned costs for unsupported consultant fees, travel, salaries and equipment, and for equipment and travel costs that were not related to the audited awards.

The Single Audit Act of 1984, Public Law 98-502, and OMB Circular A-133 require that recipients of federal grant funds have audits covering federal assistance conducted by an independent audit organization and submit such audits to their cognizant or oversight federal agency. In addition to conducting preaudit surveys and audits, we review these single audit reports. During this reporting period, we reviewed 144 single audits from institutions for which NSF is the oversight agency. Of these reports, 15 contained questioned costs totaling \$207,440 related to NSF awards. We also received 392 single audit reports from institutions for which NSF is not the oversight agency. Of these, nine contained questioned costs totaling \$47,001 related to NSF awards.

NSF management will resolve identified questioned costs.

# INVESTIGATIONS

The investigations section is responsible for investigating violations of criminal statutes or regulations involving NSF employees, grantees, contractors, and other individuals conducting business with NSF. The results of these investigations are referred to federal, state, or local authorities for criminal prosecution or civil litigation, or to NSF's Office of the Director to initiate administrative sanctions or penalties.

# EMBEZZLEMENT OR DIVERSION OF NSF GRANT FUNDS

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We place a high priority on allegations involving embezzlement, diversion of grant or contract funds for personal use, or other illegal use of NSF funds. Deliberate diversion of NSF funds from their intended purpose is a criminal act that can be prosecuted under several statutes. We encourage universities and other grantees to notify NSF of any significant problems relating to the misuse of NSF funds. Early notification of significant problems increases our ability to investigate allegations and take corrective action to protect NSF and its grantees.

## Mischarging/Diversion Cases

### False Statements and False Salary Charges

A core element of NSF’s Strategic Plan is the promotion of partnerships between private industry and the academic community. Accordingly, many NSF programs require that research projects involve substantial collaboration with, and participation by, private companies. The number of industrial participants is one of the key factors NSF managers use in evaluating these projects, both when deciding which projects to fund and in considering which projects should continue to be funded.

We received allegations of mismanagement and financial improprieties concerning a large NSF-funded research project. The university had also received the allegations, and its review determined that the project administrators instructed employees to overstate the number of hours they were working to receive additional pay. The university also found that annual reports the project administrators submitted to NSF may have substantially overstated the number of the project’s industrial participants. The university’s review resulted in the resignation of the principal investigator (PI) and the demotion of another project administrator.

**TABLE 2  
INVESTIGATIVE ACTIVITY**

Active Cases From Previous Reporting Period	37
New Allegations	37
Total Cases	74
Cases Closed After Preliminary Assessment	2
Cases Closed After Inquiry/Investigation	23
Total Cases Closed	25
Active Cases	49



Our investigation confirmed that project administrators had instructed two employees to overstate their hours to receive additional pay, which led to improper payroll, fringe-benefit, and overhead charges of more than \$15,000. We also determined that, in annual reports to NSF, the PI overstated the number of the project's industrial participants by nearly half. The greatest misrepresentations occurred during and after a crucial review of the project in which NSF management decided to continue NSF support for the project. NSF management told us that the exaggerations of the level of industrial participation influenced their assessment of the project and its eligibility for future funding. NSF managers also stated that if they had known the true level of industrial participation, they might have decided to decrease or even terminate funding for the project. We also found that the PI submitted false statements to NSF describing the criteria used for determining which companies were current participants. Instead of requiring donations each year as he reported to NSF, the PI continued to list some companies as participants despite their failure to keep up their annual donations. We referred our findings to the Department of Justice for appropriate action.

Concurrent with our investigation, NSF management conducted an extensive site visit of the project. Based on this site visit, NSF decided to reduce the project's funding for 1998 by more than \$700,000 and terminate funding altogether in 1999. NSF management's actions were based on lack of progress, including a determination that the project's actual industrial support was inadequate. These funding changes will enable NSF program managers to allocate more than \$3 million to other research projects.

## **Use of Grant Funds for Personal Business Activities**

We received allegations that a professor was spending university funds, including funds from NSF grants as well as other federal, state, and private grants, to support the professor's personal business interests. We coordinated our investigation with the university's police and internal audit departments.

The coordinated investigation found that the professor, who was the owner of several small businesses,

- failed to disclose his outside business interests to the university, as required by the university's regulations, and, in some instances, made affirmative statements that concealed those interests;
- used his offices, telephones, and fax machine at the university as well as university employees and students under his supervision to conduct business related to his companies; and
- expended over \$20,000 in state, private, and NSF research grant funds for activities directly related to his personal business interests.

In addition, one of the professor's companies submitted proposals and obtained federal research awards. The professor used graduate students and university employees to conduct work at the university that related solely to the company's proposals and research awards. We identified possible false statements and false claims that were submitted to federal agencies in the company's research proposals and reports. We referred our findings to the appropriate prosecutorial authorities.

## **Personal Expenses Totaling \$50,000 Charged to NSF Grants**

A university audit identified personal telephone calls being charged to a professor's NSF grants for chemistry research. We coordinated our investigation with the university's internal audit department and determined that, from September 1987 through April 1997, the professor's wife used his university-issued telephone calling card to make \$46,000 in telephone calls to her relatives. The professor had directed that charges for use of the calling card be charged to his NSF grants. The professor claimed that he had been unaware of most of his wife's telephone charges. However, after learning of them, he continued to allow the telephone billings to be charged to the grant but claimed he had been tracking the expenses with the intention of reimbursing the grant.

Further review determined that the professor had received approximately \$1,600 in excess or partially duplicative travel reimbursements for travel related to his NSF grant. In addition, the professor made several unallowable purchases, such as landscaping software and restaurant guides, that totaled approximately \$1,800. The professor could be liable for the direct and indirect charges, totaling \$74,000, that were improperly charged to his NSF grants. We have therefore referred this matter to the appropriate U.S. Attorney's Office. The university has suspended the professor's signature authority on all university accounts, including the NSF grant.

## **Administrative Assistant Embezzles Funds**

We investigated allegations that funds may have been embezzled from a bank account that was created to manage program income from a project supported by an NSF biology grant. We coordinated our investigation with the university's internal audit office and police department. The director on the NSF grant loaned \$6,000 from the program income account to an administrative assistant. The administrative assistant later wrote four more checks to herself from the account, totaling \$11,600, and, in the process, forged the director's signature on the checks. The administrative assistant provided us a sworn statement admitting that she wrote the four checks and forged the director's signature on the checks.

In addition, we determined that the director, with help from the administrative assistant, inflated the number of participants listed on requests for reimbursement of entertainment expenses submitted to the university and charged to the NSF grant. We concluded that the director submitted the inflated request to obtain reimbursements for conference banquet expenses. The actual expenses exceeded the university's per diem rates by as much as 300 percent per person and caused \$7,500 in overcharges to the grant. We also found that approximately \$7,500 was charged to the NSF grant for alcohol that was served at the conferences, an unallowable expense under federal regulations.

During the investigation, the director and the administrative assistant resigned from the university, and the university returned over \$18,000 to the NSF grant. We referred our findings to the appropriate U.S. Attorney's Office for criminal prosecution.

## **Administrative Assistant Steals Equipment and Embezzles Funds**

A university police department learned that an administrative assistant on an NSF education grant had, without authorization, purchased four personal computers with NSF grant funds and then removed the computers from the university. The university police department executed a search warrant at her residence, located two of the four computers, and seized several documents.

We assisted further investigation by the police department and the university's internal audit department and determined that the administrative assistant, who had two prior convictions for financial crimes, created and submitted invoices to the NSF grant to falsely pay over \$40,000 for "guest lecturers" who were, in reality, her husband, relatives, and friends. We also found that the administrative assistant stole \$5,000 in checks that were intended to be credited to the NSF grant and deposited them into her personal account; submitted travel reimbursements claiming funds for airline tickets that had already been paid for directly through the NSF grant; submitted false travel vouchers for her supervisor; and, when reimbursement was issued for the travel vouchers, stole the checks and deposited them into her own account. The university fired the administrative assistant, and the matter has been referred to and accepted for criminal prosecution by the local District Attorney's Office.

## **Professor Spends NSF Funds Intended for International Collaboration on Other Projects**

We received a complaint that a biology professor received funding from NSF to pursue an international research collaboration but spent the funds on other projects. The grant budgeted funds to support travel and expenses for an international scientist to conduct research with the professor at the university. We found that the professor had spent all of the NSF funds, \$38,410, on other research projects without initiating the international research collaboration. The university agreed to credit the full \$38,410 to the NSF account and to complete the international collaboration as originally proposed and guaranteed oversight procedures to ensure that the funds are spent in accordance with the project objectives.

## **NSF-Sponsored Researcher Sentenced and Ordered to Pay Restitution**

As reported in [Semiannual Report Number 16 \(page 34\)](#), a federal jury found the PI of a small business that had received an NSF Phase II SBIR award, guilty of three counts of 18 U.S.C. § 1001, *False Statements*, and three counts of 18 U.S.C. § 1341, *Wire Fraud*. The jury concluded that the PI knowingly and intentionally submitted false certifications to NSF causing NSF to wire grant funds to the company's bank account after the PI had ceased working on the grant. On May 22, 1997, the PI was sentenced to serve 4 months' incarceration, perform 3 years' supervised probation, pay restitution of \$49,453, and perform 300 hours of community service. NSF has initiated administrative action proposing to debar the PI for 3 years.

## OTHER INVESTIGATIVE MATTERS

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### **Improper Hiring Practices Led to Increased Cost and Conflicts of Interests**

In [Semiannual Report Number 16 \(pages 38 and 39\)](#), we reported that an NSF directorate had attempted to reduce its number of full-time equivalent (FTE) and IPA employees by converting the positions to non-NSF positions funded by an FFRDC that receives most of its funding from the directorate. The NSF directorate amended its cooperative agreement with the FFRDC to provide additional funds to cover the salaries, benefits, and indirect costs of these individuals, who were hired by the FFRDC and immediately assigned back to NSF. The individuals occupied the same positions with the same responsibilities at NSF before and after their conversion to the FFRDC; however, NSF paid approximately 70 percent more to staff the positions through this arrangement.

In addition, senior directorate executives placed one of the individuals whose position had been converted in a situation involving a conflict of interests. While aware of his pending conversion to an FFRDC-supported position, senior directorate officials failed to recuse him from matters involving the FFRDC and obtained advice from the individual on matters in which the FFRDC had a financial interest.

We also reported that a division within the same NSF directorate had entered into an IPA agreement with the same FFRDC to staff an associate program officer position with someone who had never worked at the FFRDC and had no prospect of returning there upon leaving NSF. Without recusing

him from matters involving the FFRDC, senior division executives sought and obtained advice from this associate program officer concerning 12 proposals from the FFRDC resulting in 8 awards to the FFRDC.

After conferring with the Department of Justice, which declined prosecution, we referred the matters to NSF for appropriate corrective action. During this reporting period, we identified another individual whose IPA position was being converted to a position funded by the same FFRDC. This conversion would increase the cost of obtaining the individual's services by approximately 31 percent, resulting mostly from additional indirect costs imposed by the FFRDC. We submitted an additional report to NSF to inform it of this occurrence and for appropriate administrative action.

Based on our reports, the Acting Deputy Director instructed the directorate to ensure that its funding of the FFRDC adheres to the purposes intended when the cooperative agreement was created, and that funding for activities other than FFRDC support be handled through other vehicles. The Acting Deputy Director directed the Office of the General Counsel (OGC) to review the ethics training provided to employees in this directorate to determine whether additional training is needed to address the directorate's relationships with its FFRDCs. The Acting Deputy Director also directed OGC to review the possible need to enhance agency ethics training regarding review processes for offices coordinating interagency programs.

As to the individuals involved, the Acting Deputy Director took action to end all conversions and to reestablish the pending conversion as an FTE or IPA position. The FFRDC awards in which the IPA from the FFRDC participated will be re-reviewed by NSF staff members outside of the directorate for an independent assessment of the funding decisions. The Acting Deputy Director issued three letters of reprimand and four letters of censure to the officials who arranged the conversions or failed to identify and avoid the conflicts. He characterized their actions as “inexcusable misconduct.” The Acting Deputy Director found that the conversions “reflect[ed] a serious lapse in judgment,” in that they represented:

- “a non-standard mechanism for staffing [directorate] responsibilities[, which] disregarded the intent of the Chief Operating Officer’s express guidance on FTEs and IPAs, . . . [and] avoided the hard calls necessary to make timely reductions in staffing levels through adjustments in [the directorate’s] operations”;
- a failure “to anticipate and consider the conflicts of interests issues that were triggered by the staffing arrangements . . . , placing both the grantee awards at risk and [directorate] staff in jeopardy of serious conflicts violations”;

- a failure “to adequately consider the increased costs associated with the staffing conversions described in the OIG report and to adequately justify them, . . . [leaving] the agency open to charges that it was inappropriately increasing its staff size at some considerable expense of program funds.”

### **Conflict Involving Honoraria Payments**

An audit of an NSF grant that supported a conference identified an honorarium payment to an NSF executive for speaking at the conference. Further investigation found that the executive had received several honoraria payments for speaking to institutions that receive NSF funding, and that his talks related in substantial part to his duties as an NSF employee. We determined that these payments violated NSF’s conflict regulations as well as 18 U.S.C. § 209, *Salary of Government Officials and Employees Payable Only by United States*. We also found that the executive participated personally and substantially in the approval of an NSF grant to an organization with which he was negotiating prospective employment, a violation of 18 U.S.C. § 208, *Acts Affecting a Personal Financial Interest*. Violation of these statutes may give rise to criminal or civil liability. We referred our findings to the Department of Justice.

## **Two Investigations Lead to Systemic Recommendations**

Two investigations in this reporting period highlighted the need for systemic action by NSF to avoid problems in the future.

### **Conflict Involving Stock Ownership**

An NSF program officer purchased stock in a company whose SBIR proposals were submitted to his office for consideration. The program officer failed to recuse himself from proposals submitted by the company after his stock purchase, despite having been advised to do so by NSF's Designated Agency Ethics Official. After purchasing the stock, the program officer participated in the review process, in violation of federal law and regulations, by recommending declination of two proposals by the company and summarizing panel reviews for a third proposal, which was also declined. We referred the matter to the Department of Justice, which declined prosecution, and to NSF for appropriate administrative action.

When we began investigating this matter, we considered whether the program officer may have violated federal law against insider trading when he purchased stock in the company, based at least in part on information he had acquired by virtue of his evaluation of proposals submitted by the company in confidence to NSF. We learned that, under a decision of the federal appellate court in the jurisdiction where NSF is located, a public official could not be convicted of securities fraud for purchasing securities in

reliance on confidential, non-public information learned in the course of his official duties. Subsequently, the U.S. Supreme Court's decision in *United States v. O'Hagan* changed the state of the law concerning securities fraud. Under *O'Hagan*, NSF employees, consultants, and reviewers must comply with restrictions under federal securities law on purchasing or selling securities based on non-public information. Accordingly, we recommended that NSF provide guidance for agency employees, consultants, and reviewers concerning their possible exposure to criminal liability based on the misuse of confidential information obtained through their work for NSF.

The agency is reviewing our recommendations.

### **Misuse of Social Security Number**

An NSF employee created false credit card accounts in the name of another NSF employee and fraudulently used these cards to obtain merchandise at local retail stores. After being arrested for this conduct by state law enforcement authorities, the employee pleaded guilty to a state felony charge of signing, with intent to defraud, a credit card issued to another. These same acts violated NSF regulations that require that employees refrain from illegal conduct. We referred the matter to NSF. The employee resigned after being notified that NSF would initiate administrative action.

During this investigation, we learned that the employee had access, through NSF records, to the other NSF employee’s social security number (SSN). We determined that certain agency practices afforded access to the SSNs of NSF employees, PIs, and recipients of individual awards by more NSF employees than necessary for legitimate agency purposes. The Privacy Act requires that agencies advise individuals of the uses to be made of their SSNs and that agencies establish appropriate safeguards to ensure the security and confidentiality of records. NSF recognizes the restrictions imposed by the Privacy Act in its Administrative Manual, where it states that it is NSF’s policy

“to respect legitimate personal privacy interests of individuals . . . [by] limit[ing] the use of the social security number as a personal identifier.” Accordingly, we recommended that NSF act, as promptly as was practicable, to minimize use of SSNs as identifiers and to ensure that employees are routinely advised of all uses expected to be made of their SSNs. The agency advised us that it has begun limiting access to SSNs, and is working to develop a plan to eliminate the use of SSNs to the extent possible.

**TABLE 3  
INVESTIGATIVE STATISTICS**

New Referrals	13
Referrals From Previous Reporting Period	7
Prosecutorial Declinations	5
Indictments (including criminal information)	1
Criminal Convictions/Pleas	0
Civil Complaints Files	1
Administrative Actions	10
Investigative Recoveries*	<b>\$403,974</b>

\* Investigative Recoveries comprise civil penalties and criminal fines and restitutions as well as specific cost savings for the government.





# O

# VERSIGHT

The Office of Oversight focuses on the science-engineering-education-related aspects of NSF operations and programs. It oversees the operations and technical management of the approximately 200 NSF programs that involve about 50,500 proposal and award actions each year. The Office conducts and supervises compliance, operations, and performance reviews of NSF's programs and operations; undertakes inspections and evaluations; and performs special studies. It also handles all allegations of nonfinancial misconduct in science, engineering, and education and is continuing studies on specific issues related to misconduct in science. The Office's scientists and engineers engage in outreach activities to acquaint NSF's staff with misconduct in science policies, inspections, and with OIG activities in general.

# MISCONDUCT IN SCIENCE AND ENGINEERING

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## Notifying Universities of Misconduct

Unlike some federal agencies, NSF does not routinely publicize the names of subjects found to have committed misconduct in science. Public notification of the names of subjects found to have committed misconduct occurs only in the most serious cases, where the misconduct leads to government-wide debarment. In these instances, the General Services Administration publishes the names of the debarred scientists. The NSB has advised us that it believes in less serious cases publicizing names would be too harsh an action, disproportionate to the seriousness of the misconduct.

This advice raises a difficult question, which is whether to recommend that NSF inform a subject's sponsoring institution about its finding of misconduct. In deciding what action to recommend we are guided by our responsibility to protect federal funds and to safeguard the integrity of the federal process for evaluating grant proposals and managing grant awards.

OIG uses the same analysis to determine whether to recommend that the subject's institution be informed irrespective of whether the misconduct occurred at that institution. In many cases, the subject's university is aware of the misconduct because it investigated the allegations or has asked about the outcome of the OIG investigation under the Freedom of Information Act. If a subject relocates to another university that is unaware of the misconduct, we consider whether protecting the government's interests requires us to recommend that NSF inform this university.

An important factor in our analysis is the subject's potential access to federal funds. How this factor affects our analysis is illustrated by a case we forwarded to the Acting Deputy Director in this period (see [page 39 of this Semiannual Report](#)). We concluded that the subject, who was a foreign national temporarily working in the United States and who had returned to his home country, was unlikely to have ready access to federal funds.

This case also illustrates that we take into consideration whether the subject perpetrated a single instance of misconduct or if there is evidence of a pattern. In our view, evidence of a pattern increases the likelihood that the subject may commit misconduct again and therefore should be monitored at the new university. Here, we found no evidence of a pattern, so we did not recommend notification of the subject's home university.

We also consider whether a subject's relocation to a new university allows that individual to avoid any monitoring the subject's former university may have imposed and whether that monitoring was important in protecting the government's interests. If we decide monitoring is important, we would recommend that NSF notify the subject's new university so that monitoring of the subject could be reestablished.

When a university is aware of misconduct, whether it occurred at that institution or not, it can evaluate for itself what action(s) it may wish to take to prevent recurrences. These include providing ethics counseling; requiring that the subject discuss with an appropriate university official the university's research standards, practices, and misconduct policy; or placing more supervision over the subject's research activities. While considering the specifics of each case, our concerns for protecting the government's funds and interests, as well as the university's concerns, must be balanced against the seriousness of the misconduct and the probable long-term consequences of disclosure on the subject.

The probable consequence on both the subject and the subject's new university is another important factor. For scientists in the early part of their careers, disclosure of a misconduct finding to the subject's new university could have long-term adverse effects on the subject's reputation, a consequence that might be more serious than warranted by the misconduct.

In many findings of misconduct, NSF requires that the university monitor the subject's proposals or awards for a specified period to ensure compliance with NSF's imposed conditions. In these situations, disclosure to the university is only necessary if the subject submits a proposal or NSF decides to make an award. We had those concerns in a case (discussed in [Semiannual Report Number 12, page 29](#), and [Semiannual Report Number 13, page 38](#)) where a subject relocated after an investigation that revealed a pattern of serious noncompliance with NSF's grant conditions. Accordingly, we recommended that NSF require monitoring of any

awards the subject might receive. NSF agreed with our recommendation and, if the subject had been recommended for an award, would have required the new institution to establish and enforce special monitoring of the subject's compliance with NSF's grant conditions, a procedure that would have led to disclosure of the subject's misconduct. Because the subject did not receive an NSF grant during the monitoring period, NSF did not notify the new institution.

Our recommendation to NSF is based on our analysis of the actions required to ensure fundamental fairness, protect federal funds, and safeguard the integrity of the federal process. Of course, NSF decides these matters independently and is free to decline to follow our recommendations.

## NSF's Definition of Misconduct in Science and Engineering

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Fabrication, falsification,  
plagiarism, or other serious  
deviation from accepted  
practices in proposing, carrying  
out, or reporting results from  
activities funded by NSF; or  
retaliation of any kind against a  
person who reported or  
provided information about  
suspected or alleged  
misconduct and who has not  
acted in bad faith

## CASES LEADING TO INVESTIGATIVE REPORTS SENT TO THE OFFICE OF THE DIRECTOR

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### **Subject Misrepresented Research Progress and Research Capabilities**

A western university informed us that it had completed an inquiry into alleged misrepresentations in an NSF renewal proposal submitted by the subject. It was alleged that

- the proposal falsely implied that the data in one figure were gathered from the experimental system that was the focus of the proposal;
- the proposal falsely claimed that two different compounds could be used to establish conditions necessary for particular experiments; and
- a procedure used to prepare samples from the experimental system did not work as claimed in the proposal.

After the university was informed of the allegations, the subject withdrew the renewal proposal from review at NSF. Shortly thereafter, he submitted a revised renewal proposal and NSF provided a large, multiyear award based on its contents. After investigating the allegations, the university concluded that the subject had committed misconduct in science and reprimanded him.

We reviewed information provided by the university as well as the subject's submissions to NSF and decided to initiate our own independent investigation into these allegations. We also investigated a new allegation that the subject had misrepresented his research progress in his submissions to NSF. As part of our investigation, we

interviewed the subject and sought expert advice from NSF program staff.

We concluded that the subject's failure to identify the actual experimental system used to gather the data in the figure was misleading. The text of the renewal proposal falsely implied that the experimental system used was the one the subject described as the focus of his proposed research.

The subject claimed that his renewal proposal statements about the two compounds were based on oral conversations with his graduate student. He included these statements in his proposal even though he seriously doubted the student's experimental and recordkeeping abilities and he had not reviewed the data before including them. Before submitting his revised renewal proposal, he conducted new experiments and modified the proposal language to reflect the new results.

Although the renewal proposal claimed that the sample preparation procedure was suitable for the proposed experiments and that the procedure worked "routinely," we learned that the subject's laboratory could rarely, if ever, gather usable data from these samples. His revised renewal proposal also failed to describe his laboratory's actual abilities to prepare these samples.

The subject's annual reports for his first NSF award claimed, as progress, preliminary data that he had collected with a collaborator 2 years before his receipt of any NSF research funds. He also failed in these progress reports to acknowledge his collaborator. These preliminary data were originally used as

background information to partially support one of the research objectives in the subject's original proposal to NSF.

The allegations we investigated focused on the subject's claims of progress on the research objective partially supported by the preliminary data and on his redescription of this objective in his renewal proposals. The subject told us that he had included this objective in his renewal proposals because his graduate student had been unable to make significant progress on it. Neither renewal proposal stated that his laboratory was unable to conduct the proposed research in the experimental system emphasized in this objective. He told us that he had not discussed his inability to conduct the proposed research because of NSF's proposal page limitation. Yet, in place of discussions about actual progress on this objective, the subject continued to redescribe experiments conducted before he received NSF support.

We concluded that the subject intentionally misrepresented his laboratory's progress and its ability to conduct certain experiments to ensure continued support from NSF: he was successful in this effort. We also concluded that these actions constituted misconduct in science.

Based on these conclusions, we recommended that NSF's Acting Deputy Director send the subject a letter of reprimand concluding that he committed misconduct in science. For a period of 3 years from the final disposition of this case, we recommended that NSF

- require that the subject submit a certification as part of any submission to NSF that the submission is free of misconduct;
- require that the subject secure, and include as part of any submission to NSF, an assurance from a knowledgeable university official who has reviewed his research records that the submission is accurate and complete;
- reduce the annual increment of any NSF award to the subject to \$65,000 or to an amount commensurate with the program officer's evaluation of the subject's research capabilities;
- reduce the duration of any NSF award to the subject to 2 years or a length of time commensurate with the program officer's evaluation of the subject's research capabilities; and
- consider requesting that the subject's requests for funds from NSF's Research Experiences for Undergraduates program be accompanied by assurances from a knowledgeable university official that his mentoring and laboratory notebook practices conform with acceptable scientific norms.

## **Plagiarism of Graduate Students' Theses by Faculty Advisor**

We received an allegation that the subject, an experienced researcher at a southern university, had, on two separate occasions, plagiarized materials from his graduate students' Master's theses. He allegedly copied materials from his graduate students' theses into two of his publications without providing them authorship credit or appropriately citing the theses. In the first instance, more than half of the material presented in the subject's first paper appeared to be identical or substantially similar to material in one student's thesis. In the second instance, three figures presented in the subject's second paper appeared to be identical or substantially similar to material in another student's thesis.

We were informed that the university had determined that the subject was guilty of academic misconduct and sanctioned him. Because we had not received any information from the university informing us that it had initiated an investigation, we wrote to the Dean of the College requesting a copy of the university's investigation report. In response, we received a copy of a university report that found there was no unequivocal evidence that the subject had substantially misappropriated the students' intellectual property. The report recommended, however, that the Dean "censure" the subject "in a manner that he deem[ed] appropriate." The Dean determined that the subject had committed "two incidents of academic misconduct" and required that the subject write letters of apology to each graduate student and publish, at his own expense, corrections in the journals that published the subject's papers. Further, the Dean made the subject ineligible for salary

increases for 3 years. Our review of the university's report determined that it did not contain sufficient documentation to allow us to independently assess the evidence related to the allegations. We requested that the university complete a final investigation report to document its conclusions.

The university-appointed Investigation Committee determined that the subject had copied material in the first paper from one student's thesis and material in the second paper from another student's thesis. It concluded that, in failing to provide authorship credit to the students, the subject seriously deviated from the accepted practice of his scientific community, committing misconduct in science. Further, the Investigation Committee determined that the subject did not commit plagiarism because (1) the original ideas in the papers were traceable to the subject's earlier published work, (2) the data in the papers were obtained at the subject's request, (3) the interpretations of the data were dependent on the subject, and (4) another coauthor on one of the papers had "extensively revised/rewritten" the text of the student's thesis from which the material was copied. On these bases, the Committee argued that the work was conducted in a collaborative manner, which made it "shared intellectual property." Finally, it concluded that the sanctions imposed by the Dean were appropriate.

We agreed that the subject committed scientific misconduct by seriously deviating from accepted practices when he denied two students legitimate and deserved authorship credit on work taken from their Master's theses. Further, we believe that, in doing so, the subject committed plagiarism. The fact that the ideas in the theses were traceable to the subject's earlier work and that the

students worked under the subject's guidance does not mean that he was entitled to claim as his own the students' thinking or their experimental efforts described in their theses. The subject's contributions to the students' theses' efforts did not allow him to appropriate their work, especially since he had previously acknowledged, as a member of the students' thesis committees, that the theses contained the students' work.

The Committee determined that the subject had acted in a willful manner when he failed to provide authorship credit to the students. We concluded that the subject acted at least knowingly when he copied the students' materials into the papers without proper attribution or citation. The subject's actions are made more serious in these two instances because they deprived students under his direction of appropriate recognition for their work. We considered the subject's two distinct acts of plagiarism as evidence of a pattern. Finally, we noted that the subject, who had been specifically directed by the Dean to write letters of apology to the students, had done so, but without any expression of remorse.

We concluded that the university's actions did not fully protect federal funds: they failed to provide assurances that the subject will adhere to the community's high mentoring and scholarship standards as NSF expects thereby protecting NSF's interests in educating the next generation of scientists and engineers. We recommended that NSF's Acting Deputy Director send the subject a letter of reprimand informing him that NSF has made a finding of misconduct in science against him. In addition, we recommended that, for 3 years from the final disposition of this case the Acting Deputy Director require

that (1) a university official provide assurances that the subject behaves appropriately as a mentor to his graduate students in connection with NSF-supported activities, and (2) the subject provide a certification countersigned by all the project participants that, with every NSF-supported publication on which he is an author, he has appropriately acknowledged all individuals involved with the project.

### **Postdoctoral Researcher Falsified Data**

A midwestern university investigated an allegation of data falsification against a postdoctoral researcher who worked for the PI of an NSF award. The subject sent material to a commercial company for analysis, and received a faxed analysis of the results (the report). The report's results did not agree with the subject's expected theoretical calculations as well as he had hoped, and the subject altered the report to better agree with his predictions. The falsified report was discovered and brought to the attention of the PI, who contacted the company to ask for another copy of the results. The PI noticed that the data in the two reports were different. At the PI's request, the Chair of the PI's department arranged a meeting between the Chair, the PI, and the subject. During this meeting, the subject admitted that he had falsified the data in the report.

During the university's investigation, the subject explained the motive for his action. The subject was a foreign citizen and planned to return to his home country after his research with the PI ended. The subject said he felt he had to accomplish as much work as possible before he returned to his home country. He said he falsified the report because he was afraid the PI would stop his

work if the report's results weren't what the PI expected. He lacked the time to resolve the scientific issues raised by the report, and he feared not getting authorship credit for the work he had done.

We concluded that, in creating the report with the intent to deceive the PI, the subject acted purposefully. Since the uncontested evidence established that (1) the subject falsified the report and (2) he did so purposefully, we concluded his actions constituted a serious deviation from accepted practices, which is misconduct in science.

We recommended that NSF find that the subject committed misconduct in science and take the following actions as a final disposition in this case. First, NSF's Acting Deputy Director should send the subject a letter of reprimand concluding that he committed misconduct in science. Second, NSF should require that for the next 3 years, the subject submit, in connection with any NSF-supported publication or submission to NSF, a certification to OIG that to the best of his knowledge, his documents contain no false data and no hypotheses or conclusions based on falsified data. Third, NSF should require that the subject ensure that an appropriate supervisory official provides an assurance that, to the best of his or her knowledge, the subject's work associated with any NSF-supported publication or submission to NSF does not contain falsified data and presents neither hypotheses nor conclusions based upon falsified data. We did not recommend notification of the subject's home university because this was an isolated instance of misconduct and it is highly unlikely that the subject will have access to federal funds.

## **Student Exhibits a Pattern of Falsifying Time Sheets and Fabricating Data**

A university informed us that an undergraduate student working in an NSF-supported laboratory was alleged to have committed "fraud and theft" in connection with her work as a student laboratory aide. The university subsequently informed us that the student had confessed to falsifying time sheets and fabricating data in two research laboratories, one of which was supported by NSF. The university's records showed that, over a period of 11 months, the student received almost \$6,000 based on claims she made on 31 falsified time sheets, 9 of which (approximately \$2,000) involved the NSF-supported project.

We learned that the student had been conducting sample analyses for over a year and was a trusted laboratory aide. During the PI's 12-month sabbatical at another institution, the student was to continue these analyses without direct supervision. The student said she was working at night and on the weekends to accommodate her work in the other laboratory and her class schedule. The PI had instructed the accounting office to process unapproved timecards as long as the claimed time was consistent with previous claims. After returning to the university, the PI requested the raw data supporting the data summary sheets the student had provided to the PI. The student initially claimed to have lost the raw data and the samples she was to have analyzed. On searching the laboratory, the PI found the samples and learned that the condition of the samples was inconsistent with their being processed for analysis. The student admitted to the PI that she had falsified her time sheets. Subsequently, when



questioned by the university police, the student confessed to data fabrication.

In ensuing state legal proceedings, the student pleaded guilty to a misdemeanor offense of theft by deception. In lieu of a 12-month jail sentence, she was placed on probation for 12 months, required to pay a fine and make restitution, and required to send the PI a letter of apology. The university informed us that, in a separate proceeding, its Student Behavior Committee unanimously recommended that the student be dismissed and that she be required to disclose fully the reasons for dismissal to the Dean of Student Affairs, if she applies for readmission.

We concluded that a preponderance of the evidence supports the conclusion that the student fabricated data to support the claims on her falsified time sheets and that she acted willfully. We concluded that the student's action in falsifying time sheets and fabricating data seriously deviates from accepted practices in the scientific community.

The student's action was made more serious because she showed no remorse for the effects of her misconduct on other researchers. She relied on, and abused, the trust scientists place in their subordinates to faithfully report the results of their experiments. The student abused the long-standing tradition of independent research and, left undetected, could have introduced errors into the research record. Because of her action, the PI's and the PI's colleagues' research programs were delayed and disrupted for 1 year. Finally, the student falsified time sheets and fabricated data under the PI's two successive NSF awards and in two separate laboratories at the university. Such actions can only be considered a pattern of misconduct.

We concluded that the university's action in dismissing the student did not protect the government's interests. The student has shown that she can be considered a skilled laboratory technician, but that she has failed to internalize scientific norms of conduct and has failed to act with integrity when independently gathering research data. We recommended that NSF send the student a letter of reprimand informing her that it has concluded that she committed misconduct in science and that it debar her for a period of 1 year from the date of NSF's final disposition of this case.

## DECISIONS BY THE OFFICE OF THE DIRECTOR

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### **Violating the Confidentiality of Peer Review and a Pattern of Plagiarism**

In [Semiannual Report Number 15 \(page 37\)](#), we discussed the case of a PI who had plagiarized text from an overview article and an NSF proposal written by another scientist into his NSF proposals and proposals submitted to the National Institutes of Health (NIH). During our inquiry, we learned that the subject had been asked by a colleague to review an NSF proposal submitted by the other scientist (the original author) that the colleague had received for confidential merit review. Months later, when revising his declined NSF and unfunded NIH proposals, the subject transcribed text, without attribution, from pages he had photocopied from the confidential proposal into his own submissions. The subject had specifically requested that NSF not send his proposal to the original author because that author had a “conflict of interest” with the subject’s department. Although the NSF proposal was declined, the NIH proposal was funded.

Because the allegations involved both NSF and NIH proposals, we coordinated the referral of the investigation into this case to the institution with the Public Health Service’s (PHS) Office of Research Integrity (ORI). After investigation, the institution concluded that the subject had committed misconduct in science. Based on the subject’s four separate statements during the investigation that he had never plagiarized material in the past, it concluded that the subject’s actions were isolated instances.

As part of our review of the institution’s investigation report, we obtained and reviewed earlier proposals submitted by the subject. While this review was in progress, ORI informed us that it had decided to close its case. Based on its review of the institution’s investigation report, ORI concluded that the subject had committed scientific misconduct by plagiarizing material into the NIH grant. ORI executed a voluntary agreement with the subject requiring that, for 3 years, the institution must submit and endorse the subject’s certification that all contributors to any application or report are properly cited or acknowledged. The agreement also excluded the subject from serving in an advisory capacity for the PHS. ORI informed the subject that his name had been entered into the PHS ALERT system and that it would remain in the system for 3 years.

During our review of the subject’s earlier NSF and NIH proposals, we found that the institution and ORI had not uncovered the true extent of the subject’s plagiarism. We found that these earlier NSF and NIH proposals contained text that had been copied without attribution from an overview article coauthored by the original author. We found that much of this text was carried over into the NIH and NSF proposals that were the focus of the institution’s investigation. Each of the four sequentially submitted proposals contained copied text not found in the previous proposal.

We concluded that the subject knowingly plagiarized text into his earlier NSF and NIH proposals and that he willfully plagiarized text into his revised proposals from the original author's confidential proposal. He knowingly violated the confidentiality of peer review, and he exhibited a pattern of plagiarism in the proposals he submitted to two federal agencies. We recommended that the Acting Deputy Director find that the subject committed misconduct in science and debar him from receiving federal funds for 2 years and prohibit him from participating in NSF's review process for 3 years. We recommended that, for 2 years following the debarment, the subject be required to certify that his proposals contain nothing that violates NSF's misconduct regulation and accompany his certification with an assurance by his departmental chairperson that the proposal contains no plagiarized material.

The Acting Deputy Director found that the subject plagiarized text into two NSF proposals. He concluded that the subject's actions were more egregious because he plagiarized text from an NSF proposal submitted by the original author that he knew was confidential and were more serious because he "engaged in a pattern of plagiarism by submitting four proposals to federal agencies which contain plagiarized text." The Acting Deputy Director concluded the subject committed misconduct in science and issued a notice proposing to debar him for a period of 2 years and to prohibit him from serving as a reviewer, advisor, or panelist for NSF for a period of 3 years.

## **Programmer Falsifies Data**

[In Semiannual Report Number 16 \(page 50\)](#), we discussed a case of a programmer who falsified data to confirm a previously untested scientific hypothesis, allegedly as a result of a long-standing psychiatric disorder. We recommended that NSF enter into an agreement with the programmer whereby the programmer would exclude himself from employment in federally funded projects for a minimum of 3 years. We recommended that this be followed by a 2-year period during which the programmer would agree not to accept employment on federal projects without informing responsible officials of his past misconduct. NSF's Acting Deputy Director decided to reprimand the programmer and debar him from receiving federal funds for 3 years. He concluded that these actions were sufficient to protect the government's interest.

## **Debarment Proposed for Obstruction of Agency Proceedings**

[In Semiannual Report Number 16 \(pages 49 and 50\)](#), we reported our recommendation that the Acting Deputy Director terminate NSF's current award to a university professor and debar him for 3 years from receiving federal funds for his having submitted and vouched for the authenticity of false evidence during an investigation into allegations that he had committed misconduct in science. During this reporting period, NSF issued a notice proposing to debar the professor for 3 years. The professor submitted a written opposition to the notice and requested a hearing. NSF is considering that request.

## **OTHER CASES CLOSED IN THIS PERIOD**

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### **University Investigates Alleged Obstruction of Research**

A PI complained to her NSF program officer and her university that several members of her department were committing misconduct in science by obstructing her research.

Among the PI's allegations was that faculty members in her department were attempting to assert control over equipment the university had agreed to dedicate to the PI's use when the PI joined the university's faculty. The PI needed the equipment for her NSF-supported project.

When the program officer brought the allegation to us, we informed her that she could intervene as necessary to ensure that progress under the PI's award would be satisfactory. However, we cautioned her that, in keeping with NSF policy, she should avoid addressing any misconduct allegations. The program officer indicated that she believed the complainant was making acceptable progress on her award and that no NSF intervention was required to enable the complainant to continue doing so.

The university determined that the PI's complaint had substance, and it initiated an investigation. After considering the facts of the case, the university's investigation committee concluded that "an unacceptable pattern of action based on non-normative understandings of the proper conduct of research ha[d] become common" in the PI's department. The committee recommended "an attempt to restructure the administration" of the department "rather than proceeding to specific charges against specific individuals." However it "[le]ft open the issue of whether

disciplinary proceedings should be initiated in the future if the current problems, or similar ones, continue." The committee proposed a 1-year monitoring period, after which, if it was satisfied with the department's progress in resolving its problems, the committee would "recommend dropping the possibility of pursuing formal disciplinary charges." The university adopted the committee's recommendations.

When the monitoring period ended, the university sent us a revised report. It reaffirmed its earlier conclusion that there was no misconduct, and, based on our own analysis of the evidence in the report, we accepted this conclusion.

In closing the case, we told the university that we were pleased that it had recognized that some practices, though not misconduct in science, nonetheless called for forward-looking, corrective action at the university level. We encouraged the university in its effort to develop and disseminate an improved equipment use policy and applauded it for making an effort to help the complainant overcome the disruptions to her research.

This case shows that some deviations from accepted scientific practice are not serious enough to be misconduct in science and are best addressed with future-oriented solutions, rather than by assigning blame. While noting certain ill-judged or inappropriate actions, the university saw this case mainly as an opportunity to improve the climate for research on its campus. This case also shows how we work to separate our investigative activity from NSF's management role in furthering progress on NSF awards.

**TABLE 4  
MISCONDUCT CASE ACTIVITY**

	FY 1997 First Half	FY 1997 Last Half
Active Cases From Prior Reporting Period	59	58
Received During Period	22	17
Closed Out During Period	23	27
In-Process at End of Period	58	48
Cases Forwarded to the Office of the Director During Period for Adjudication	2	4
Cases Reported in Prior Periods With No Adjudication by the Office of the Director	2*	1**

\*These cases are described in [Semiannual Report Number 15, pages 37 through 41](#).

\*\*This case is described in [Semiannual Report Number 15, pages 40 through 41](#).

During this reporting period, we closed 27 cases, 24 of which have not been discussed in this report. These latter cases involved allegations of plagiarism (verbatim and/or intellectual theft), mishandling of NSF proposals by NSF staff, violations of the confidentiality of peer review, destruction of scientific samples, misappropriation of equipment, hindrance of research progress by discrimination or harassment, false statements in proposals, or falsification of data. Many of these cases contained multiple allegations of misconduct in science. After reviewing information available to us from NSF or other sources, we found it necessary to obtain additional information from the subjects in nine of these cases. All 24 cases were closed at the inquiry stage.

**TABLE 5  
ASSURANCES AND CERTIFICATIONS RECEIVED\***

Number of Cases Requiring Assurances at End of Period	3
Number of Cases Requiring Certifications at End of Period	5
Assurances Received During This Period	0
Certifications Received During This Period	0

\*NSF accompanies some findings of misconduct in science with a certification and/or assurance requirement. For a specified period, the subject must confidentially submit to the Assistant Inspector General for Oversight a personal certification and/or institutional assurance that any newly submitted NSF proposal does not contain anything that violates NSF's regulation on misconduct in science and engineering. These certifications and assurances remain in OIG and are not known to, or available to, NSF program officials.

## OTHER OVERSIGHT ACTIVITIES

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### Representational Activities

On July 24, 1997, the Deputy Inspector General testified before the Senate Committee on Commerce, Science, and Transportation about management issues confronting NSF. The testimony focused on (1) Internet domain name registrations; (2) NSF's hiring practices concerning visiting scientists and engineers; (3) accounting for approximately \$900 million in PP&E owned by NSF; (4) NSF's implementation of the Government Performance and Results Act (GPRA); and (5) the incidence of fraud in the SBIR program.

A chemist from the Oversight staff spoke to faculty, administrators, postdoctoral fellows, and graduate and undergraduate students on "NSF's Handling of Allegations of Misconduct in Science," on July 9, 1997, as part of the California State University, Fullerton, Department of Chemistry and Biochemistry's NSF-REU seminar series on "Science, Ethics, and the Environment." On September 22, 1997, an Oversight scientist met at NSF with visiting officials from the Deutsche Forschungsgemeinschaft (DFG) to discuss OIG's policies and procedures for handling allegations of misconduct in science.

### Propriety of NSF's Candidate Emergence Research

Four Congressmen expressed concern about whether an NSF-funded award, entitled *Collaborative Research on Candidate Emergence in U.S. House Elections*, was being used for its intended purpose. They asked us to "review the circumstances surrounding this study" and to report "on the extent to which the investigators are carrying out the program proposal" that NSF chose to fund. They needed our report within 15 days of their request.

The purpose of the PIs' study was to examine the factors that affected whether or not potentially strong candidates for Congress decided to run for office. The study addressed questions that NSF's merit reviewers deemed scientifically important and used a survey research design that the reviewers praised as innovative. All of the items included in the survey questionnaire the PIs developed under the award were fully consistent with the purpose of the study described in the PIs' proposal to NSF. The cover letter the PIs sent to survey respondents appropriately stated that the study was motivated by scientific, not political or partisan, purposes. We determined that, however politically sensitive certain questions might have appeared, there were scientific reasons for asking them.

We found that the PIs had appropriately represented their work in their original proposal to NSF and that neither their research objectives nor the phenomena they were studying had changed since the project's inception. During the study, the PIs made minor changes in their research design without consulting NSF. In our report, we noted that NSF permits researchers to make such changes because it recognizes that scientists need flexibility to improve their research designs as their work proceeds and to pursue significant new issues that emerge in the course of their research.

In mid September, GAO's Resources, Community, and Economic Development Division initiated an expanded review of "the Foundation's grants for research on the emergence of candidates for Congress and other similar research." GAO aims "to determine if (1) key elements of NSF's candidate emergence research are methodologically sound, (2) the grant awards for the candidate emergence study and other similar awards are consistent with NSF's missions and goals, and (3) appropriate NSF funding guidelines were followed in awarding grants for the candidate emergence study and other similar studies." We have offered GAO our full cooperation.

# INSPECTIONS

Our office conducts internal and external inspections. Internal inspections review NSF's administrative units. External inspections are on-site reviews at grantee organizations that receive NSF funding.

Inspections are designed to highlight what works well and identify problems or deficiencies so that managers at NSF and NSF-funded organizations can improve their operations and better achieve research and education goals. Inspections are conducted by multidisciplinary review teams that may include scientists, engineers, auditors, computer specialists, investigators, lawyers, and management/program analysts.

We completed one off-site internal inspection and three external inspections during this reporting period. We conducted our external inspections at a private, nonprofit corporation in the northeast; a private university in the northeast; and a state university in the west.

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## INTERNAL INSPECTIONS

We designed our internal inspections program to help NSF fully implement GPRA. GPRA requires that federal agencies develop strategic plans that include mission statements, outcome-based goals and objectives, descriptions of how goals will be achieved, and a performance plan tied to the strategic plan. Beginning in FY 1999, agencies will be required to prepare annual reports that integrate financial and performance information, and Offices of Inspector General will be required to review those statements for accuracy. Internal inspections will help us understand how NSF managers at the program and division levels administer their programs and generate the information that NSF will use to measure program performance and results. During this reporting period, we conducted our first off-site internal inspection.

Because NSF had not yet identified specific outcome performance measures or the data that will be used to support them, we devised a review that addressed the following four broad areas: (1) the adequacy of NSF's financial rules and procedures in ensuring proper use of NSF funds, (2) the efficiency and effectiveness of NSF's internal operations, (3) the level of customer satisfaction with NSF's programs and operations, and (4) the capacity of NSF to make valid claims about program performance and goal achievement. Internal inspections stress the relationships among program, administrative, and financial considerations in the overall administration of NSF's programs.

### NSF'S Europe Office

For our first off-site internal inspection, we reviewed NSF's Europe Office. The Office is located in the American Embassy in Paris, France, and is managed by NSF's Division of International Programs (INT) within the Directorate for Social, Behavioral, and Economic Sciences (SBE). The Office consists of two staff members: a scientist or international science policy expert (the Europe Officer) and a full-time research and



administrative assistant (RAA). Through our inspection, we sought an integrated understanding of the financial, administrative, and programmatic components of the Europe Office's operation. We were especially interested in the control NSF management in Arlington exercises over a facility in a distant location and the measures NSF applies in determining whether that facility is being properly managed and is serving NSF's needs.

The Europe Office performs informational, representational, and programmatic functions. NSF expects the Office to maintain and develop a wide array of contacts with European scientists and science administrators. The Office disseminates information by making formal reports, usually about 10 pages long and based on site visits, and sending briefer news items to interested NSF staff members. Representation includes attending meetings and assisting NSF staff members, especially NSF's top management, in arranging productive visits to Europe. Programmatic assistance includes facilitating initial contacts between European and American scientists who are doing related work and setting the stage for cooperative ventures to advance science. The same activities may contribute to all three functions simultaneously.

Among NSF's many sources of information about European science, the Office's distinctive informational strength is its capacity for sustained, wide-ranging interactions with European scientists and policymakers that can yield serendipitous, sometimes impressionistic, information that is useful for orienting and sensitizing NSF staff members to European developments. An additional strength is the opportunity that face-to-face

interaction affords to observe subtleties of feeling and to create relationships that can then be sustained through more impersonal means of communication. INT officials also saw the Office's flexibility and relative freedom from routine assignments as an asset, enabling it to respond to unexpected opportunities and to handle emergencies.

The INT officials who are the primary users of the Office all report satisfaction with it. The U.S. Department of State (State Department) diplomats we interviewed said that monitoring developments in basic science was peripheral to their responsibilities and that NSF could not expect Embassy staff members to assume any of the Office's functions if NSF chose to close the Office.

The Europe Officer reports to INT's International Science and Engineering Issues Office (Issues Office). INT develops priorities for the Office through consultations among division management, the coordinators of the Eastern and Western Europe programs, and the head of the Issues Office. INT officials also engage in extensive informal consultation with program officials throughout NSF to acquaint themselves with the needs of NSF's different directorates so they can incorporate those needs in the planning process for setting Europe Office priorities.

NSF has no systematic data on who uses Europe Office capabilities or what products and services the Office's customers use. Although NSF can readily generate data on Europe Office activities, these data document outputs and not outcomes, as that term is used in GPRA. In light of GPRA, INT will need to develop a clear articulation of why it monitors results in the way it does and how its outcome measurement system helps it to

achieve desired results. We recommended that SBE and INT develop a performance plan for the Europe Office that ties the Office's activities to NSF's, SBE's, and INT's strategic goals. In response to our recommendation, INT agreed that Europe Office performance should be tied to division, directorate, and NSF goals and that there should be mechanisms to measure the performance of the Europe Office in relation to those goals. INT will, in the next revision of its strategic plan, make more explicit the role of its overseas offices.

All of the officials we talked with strongly defended the value of the Office in its current form, and none believed the resources now devoted to it could be put to a better use. However, they were concerned that information and representation functions, the results of which are difficult to measure, might be vulnerable with the advent of GPRA. Program officials' understandable apprehensions on this point pose a challenge to federal efforts to use results measures to more effectively manage federal resources.

Until August 1995, NSF set the basic programmatic direction for the Office, assigned a staff member to the State Department to serve as Europe Officer, and relied on the State Department to handle the Office's administrative functions. Since that time, NSF has assumed the Office's administrative functions, including making the Europe Officer an NSF employee. Our review identified the following instances in which NSF administrative practices had not changed to reflect the additional administrative responsibilities that the current arrangements entail.

### **Post Allowance**

Since NSF took over the Office's administrative responsibilities from the State Department, the Division of Human Resource Management (HRM) has been responsible for calculating the Europe Officer's post allowance, which is a cost-of-living adjustment that the government pays to employees at foreign posts where living costs are more than those in Washington, D.C. Although the post allowance can change bi-weekly, HRM did not monitor or adjust the Europe Officer's post allowance for over 1 year and paid \$2,814 in excess post allowance. We attributed HRM's failure to adjust the Europe Officer's post allowance to its procedures for initiating post allowance revisions. An HRM official told us that it was the employee's responsibility, not HRM's, to report any changes. Once the employee reports a change, HRM adjusts the amount paid. We believe HRM's procedures are fundamentally unsound. Proper internal controls require that a source independent of the employee be responsible for initiating, preparing, and authorizing the employee's payroll revisions including overseas allowances. We recommended that HRM assume responsibility for monitoring changes in overseas cost-of-living rates paid to NSF employees. INT agreed that rate changes require closer monitoring and indicated it has already requested HRM to assume responsibility for monitoring changes in overseas cost-of-living rates and authorizing changes to the amount of post allowance.

## Financial Reporting

INT could not locate some Office financial records that had been placed in storage, and an Office summary of costs INT prepared for our inspection was inaccurate. When asked, INT told us that it had difficulty preparing the schedule of Europe Office costs because of diverse sources of financial information. We recommended that INT design and implement a periodic comprehensive financial reporting process for the Office so that a single summary of financial information about the Office is readily available for NSF management. INT agreed that a more regularized schedule of financial reports directly from the Europe Office that would complement the reports transmitted by the Embassy's fiscal office to the Office of Budget, Finance, and Award Management would be helpful.

## Personnel

### Research/Administrative Assistant

**Position.** The incumbent RAA is employed through a personal service agreement, which was issued by the State Department in August 1994. As with all previous Europe Office support positions, NSF reimburses the State Department for the RAA's salary and benefits through an interagency agreement. The personal service agreement is no longer an appropriate employment mechanism for the RAA position because, unlike the State Department, NSF does not have authority to enter into personal service agreements. We recommended that NSF implement an appropriate employment mechanism for the RAA position before the current contractual agreement expires in January 1998. The RAA position has evolved from one of secretarial support to a bona fide professional position that is, for all intents and purposes, a full-time NSF job. We suggested that NSF

consider establishing a regular, full-time NSF position for the RAA in the Europe Office. INT responded that it was exploring the various options outlined in our inspection report for supporting the RAA position in the future.

**NSF Europe Officer.** The Europe Officer is appointed for a 2-year term, but most of the people we interviewed thought s/he should ordinarily serve for 3 or 4 years. This increased length of stay would have both programmatic and financial advantages. Programmatically, it would reduce the disruptions of frequent turnover. Financially, it would reduce relocation costs. For example, when compared to 2-year terms, we estimated savings over a 10-year period to be \$22,360 for 3-year terms and \$49,540 for 4-year terms.

## EXTERNAL INSPECTIONS

We designed our external inspections program to improve our understanding of NSF's grantee activities by integrating financial, administrative, and program analyses in a single review. We view external inspections as an effective approach because they allow us to determine whether NSF's program goals are being achieved as well as review the financial and administrative management of NSF awards. Inspection teams look for early indications of financial, administrative, or compliance problems so they can be addressed before they become so serious that their resolution requires an audit or investigation.

Problems of compliance with NSF's Investigator Financial Disclosure Policy (NSF's Policy) were found at each of the inspected institutions; two were seriously out of compliance.

### **Inspection at a Private, Nonprofit Institution in the Northeast**

All 12 awards in this inspection were made by the NSF Education and Human Resources Directorate's Division of Elementary, Secondary and Informal Education (ESIE) to a nonprofit educational institution to support the development of instructional materials, teacher enhancement activities, and informal science education opportunities. NSF is the major source of overall funding for this institution and had awarded it nearly \$25 million between FY 1994 and the middle of FY 1997, the time of our inspection.

## Financial Controls

**Indirect Cost Rate Review.** Although the U.S. Department of Health and Human Services (DHHS) is the institution's cognizant federal agency, we conducted a limited review of the methodology used by the institution to calculate its indirect cost rate for FY 1995 because NSF has been providing most of the federal funding for this institution since at least FY 1994. DHHS had not conducted an indirect cost review at the institution since at least 1989. We concluded that problems exist in the manner in which the institution calculates and applies its overhead rates. For example, the institution included unallowable costs in its indirect cost pool and could not provide documentation to show that these costs could be considered exceptions. The institution also included in its indirect cost pool charges that had already been billed as direct costs. We noted problems with the institution's fringe-benefit cost and occupancy cost rate analyses. We are concerned that, despite a 55-percent increase in the institution's federal funding over the last 5 years, its overhead rates have not decreased. Increases in federal funding usually result in lower overhead rates because a larger direct cost base does not proportionally increase indirect cost expenses. Because NSF provides most of the federal funds and because the findings developed by this inspection were significant, we requested that federal cognizance be reassigned to NSF. Once federal audit cognizance is reassigned, we intend to conduct an audit of the institution's indirect cost rate calculation for FY 1998.

**Conflict of Interests.** Two subcontracts made by the institution appeared to involve conflicts of interests. The subcontracts were to a nonprofit organization run by a Board member of the institution. The institution had not competed the subcontracts (as required by OMB Circular A-110) or documented the justification for the sole source procurements. We were especially concerned because the institution did not maintain written standards of conduct covering conflicts of interests (and other issues), as required by OMB Circular A-110. We recommended that the institution implement policies and procedures that address Circular A-110 requirements on codes of conduct to eliminate real and apparent conflicts of interests. The institution acknowledged that its documentation may have been inadequate, but it did not believe there was any wrongdoing regarding either subcontract.

**Participant Support Costs.** The institution underspent \$44,000 in support costs budgeted for one award and instead used the funds for other grant-related purposes without first obtaining approval from the relevant NSF program officer. We recommended that NSF's Division of Contracts, Policy and Oversight (CPO) require that the institution remit \$44,000 to NSF for the underspent support costs. CPO responded that it would determine whether to recover any of these costs based on the institution's response to the draft report and any other documentation it may require that the institution provide. The institution stated that it shared the inspection team's concern that documentation requesting approval to reallocate the underspent participant costs had not been prepared.

## **A Shared Strategic Focus**

On site, we interviewed 13 PIs/Project Directors (PDs) and 12 "other professionals" associated with the 12 awards in our inspection base. The PIs/PDs were open, informed, highly articulate, well-organized in presenting their projects, and keenly interested in and dedicated to their work. The PIs/PDs we interviewed understood ESIE's goals in much the same way that ESIE's program managers did. Like the program managers, they stressed hands-on and inquiry-based education for students at all levels and geared their work to recently developed national standards for science and mathematics education. The other professionals working on ESIE's awards also shared the PIs/PDs' vision.

The people we interviewed stated without reservation that NSF was *the* funding source for innovation in science education and doubted that much change would occur without continued NSF leadership. The PIs/PDs described ESIE's program directors as dedicated and supportive experts. However, they perceived NSF as shifting priorities toward "local systemic change," where funds go to whole school districts and large-scale teacher enhancement projects. They questioned whether truly innovative individual projects were being "squeezed out" in this shift.

## **Results Under Awards to the Institution**

NSF is in the initial stages of attempting to comply with GPRA requirements. NSF recently sent its first GPRA strategic plan and accompanying performance plan to OMB. However, we found that ESIE's Strategic Plan: FY 1995-FY 2000 has been in effect since the beginning of FY 1995. At the end of FY 1996, ESIE reported its progress and revised some of the milestones and

performance measures developed for its original strategic plan.

We were especially interested in the results of the work done under ESIE's awards, some of which are described below.

- Materials were developed as part of a comprehensive, grades K through 5 mathematics curriculum based on the national mathematics standards. These materials are now being disseminated by a textbook publisher.
- Five middle school curriculum packages were designed to help students learn both science content and the process of scientific investigation. The National Geographic Society has prepared these materials for publication and distribution.
- A new class of playground equipment based on understanding how students learn mathematics and science concepts has been developed. By providing instantaneous feedback, this equipment exposes children to significant ideas in science and mathematics through play. A manufacturer of playground equipment has initiated preliminary licensing arrangements.

### **PI Financial Disclosure**

The institution was not in compliance with NSF's Policy, which became effective on October 1, 1995. Financial disclosures, as required by NSF's Policy, had not been made for the five funded proposals the institution submitted to NSF after October 1, 1995. As a result of our requests for documentation before our inspection, the institution became aware of NSF's Policy and formulated a draft policy addressing financial conflicts of interests.

We informed NSF officials in CPO about the institution's noncompliance. CPO officials told the institution that they had decided to suspend the five awards affected by the institution's noncompliance. They also said they would suspend processing pending proposals until the institution finalized and implemented its conflict-of-interests policy, submitted new cover sheets for those proposals (whereby the institution certifies, among other things, that all financial disclosures have been made), and resolved any conflicts of interests by a specified deadline. Before CPO issued a formal letter conveying its intentions, the institution provided CPO with a copy of its final conflict-of-interests policy and all required cover sheets. As a result, CPO did not impose sanctions.

### **Misconduct in Science**

The institution prepared a draft policy and procedures for handling allegations of misconduct in science in response to our requests for documentation before our on-site visit. We recommended that the institution complete and disseminate final revisions to its draft policy, taking into account the need to (1) establish a standard of proof for investigations and adjudications and (2) specify alternative officials for receiving allegations of misconduct in science when a designated official is either the subject of an allegation or has a conflict of interests. The institution agreed with our recommendation and informed us that it addressed both of these concerns in its final misconduct in science policy and that it disseminated the final policy to institution staff.

## **Inspection at a Private University in the Northeast**

This inspection included eight grants supporting basic research in physics made by NSF's Directorate for Mathematical and Physical Sciences and one grant supporting U.S.-Korea Cooperative Research made by NSF's SBE.

### **Financial Controls**

The university generally complied with NSF's and other federal award requirements. We identified minor compliance and internal control issues concerning cost sharing, summer salary certifications, and subrecipient audits. We recommended, and the university agreed to implement, procedures to account for cost sharing to comply with Cost Accounting Standard 501, *Consistency in Estimating, Accumulating and Accounting for Costs*. The university's new financial system, which is planned for implementation in July 1998, will contain a segment in the new Chart of Accounts that will be used to capture cost sharing as the costs are accumulated and charged to sponsored programs. The university is also training its research department administrators on the importance of accounting for cost sharing and the proper procedures for filling out the cost-sharing forms. In the interim, the university is revising its cost-sharing procedures to account for the costs when they are proposed by tracking the accounts to which the cost sharing is being charged.

As a result of our recommendations, the university agreed to prepare and approve timely certifications for summer salary changes, revise the faculty effort reporting system to capture effort data in a more timely manner, and establish formal policies and procedures to ensure that subrecipients of federal awards are audited and that the university takes corrective action on the audits where necessary.

### **Investigator Financial Disclosure**

Each of the university's nine faculties has its own conflict-of-interests policy and disclosure system to carry out federal requirements. The university provost is responsible for ensuring that each faculty has a policy and system in place. There is no monitoring at the university level.

Since the university's Faculty of Arts and Sciences (FAS) receives most of the funds NSF awards the university, we reviewed the FAS financial disclosure system and spot-checked 12 awards NSF made to the university from proposals submitted by 9 FAS PIs. We determined that the FAS had made a good faith effort to comply with NSF's Policy. The FAS disclosure system is clearly explained and available to faculty members. It appeared that the system has been successful in ensuring disclosures by faculty members. However, we found weaknesses in the implementation of the disclosure system, especially as it applies to investigators who are not faculty members, such as research associates and postdoctoral fellows. If these weaknesses are symptoms of a wider problem, the university would not be able to ensure that disclosures are being made by all investigators on all proposals submitted to NSF, as required by NSF's Policy.

During our spot check, the conflict-of-interests official could not immediately retrieve disclosures for all of the investigators on each award for us to verify. He readily retrieved disclosures for the investigators who were faculty members but could not do so for those investigators who were not faculty members because FAS PIs are responsible for obtaining disclosures from non-faculty investigators on their awards, forwarding any positive disclosures to the conflict-of-interests official, and maintaining records of negative disclosures.

After the conflict-of-interests official contacted the PIs to request the non-faculty investigators' disclosure forms, he learned that none of the five non-faculty investigators had filed the appropriate disclosure forms with their respective PIs. As a result of our inspection, all noncompliant investigators filed disclosure forms.

We recommended that FAS

- correct its investigator financial disclosure system so that the university can ensure that disclosures are made for all investigators on NSF awards and
- reconsider the advisability of requiring that other investigators make confidential disclosures through a PI rather than directly to the Committee on Professional Conduct.

Our concern with the latter recommendation is that other investigators might be reluctant to supply personal financial information to a supervisor (that is, the PI) and/or administrative staff.

In response to our concerns and recommendations, the university transmitted with its response a draft of a newly created form, *Principal Investigator Certification on Investigator Conflict of Interest*, that will be completed and signed by the PI when the proposal is submitted to NSF and at the time of annual renewal or continuation for multiyear grants. The PI will certify, by signature, that NSF policy requirements have been met by the PI and by any other investigators involved in the PI's project.

The university also responded that it believes the current conflict-of-interests policies of each of its faculties does comply with the requirements of NSF regulations in this area. However, the university agreed that it would be useful to review those policies in light of the revisions to the FAS policy outlined above and to suggest similar revisions to other faculties' policies where appropriate.

### **Misconduct in Science**

The university's policy on misconduct in science did not contain a definition of misconduct in science or give examples of what might constitute an allegation of misconduct in science. The university's undergraduate and graduate handbook did not discuss misconduct in science, although the graduate handbook provided a brief exposition on research practices. Without a definition, neither the subjects of allegations, investigating officials, nor adjudicating officials will know to what standard scientists are being held. In response to our recommendation to formalize a definition, the university responded that it expected that an implicit definition in its policy would soon be made more explicit.



Neither the student handbooks nor the university's policy stated that it was the university's responsibility to notify NSF when an investigation begins that involves allegations of misconduct in science in connection with an NSF proposal or award, or to notify NSF of the results of such an investigation. Further, there was no indication in any of the handbooks or policies that NSF may take action against wrongdoers if they are found to have committed misconduct in science. In response to our recommendation for dissemination of this information, the university indicated that the student handbook and university policy would be modified, and the revised statements in the student handbook and their policy "should provide the necessary publicity."

### **Integrating Research and Undergraduate Education**

The physics department was highly ranked in public ratings. The university sought to award tenure only to leading researchers in their field. Proposals from physics department faculty members were unusually successful in obtaining NSF funding. We viewed this as evidence that the university had succeeded in attracting leading researchers in the discipline. In addition to being excellent researchers, the faculty were expected to teach at all levels. This was consistent with NSF's strategy of integrating research and teaching so that students can learn from scientists active in the field.

Undergraduate students in the physics department had opportunities to learn about research firsthand through a research course that taught them the basics of research while they worked on a small research topic or project directly with a faculty member's research group. A few faculty members had undergraduate students in their research groups, and most had graduate students who were actively involved in research. In these groups, students learn by apprenticeship to the PI and from other members of their research team. When questions about ethical issues in research occur, for example, the use of fitted (or adjusted) data versus raw data or possible citation problems, a group meeting is held to discuss the proper procedure or response.

The undergraduate students believed the experience gained by working in the laboratories of leading researchers in their discipline would improve their chances of admission to graduate school, especially if the students' contributions are acknowledged on a conference presentation or a published paper. They saw their research experience as an opportunity to develop their visibility in the research community and as helping them to continue research in a top program at graduate school.

### **Research Records**

The university did not have a formal, written policy on the standards of research record-keeping. Most faculty members thought the university policy required retention of records for 3 years, but a few faculty members thought the policy was 5 years. Members of the groups that kept data said that, regardless of the university policy, they kept data indefinitely.

The customs of the wider physics community seem to have imposed some uniformity on recordkeeping practices, with the primary differentiation appearing only in the difference between theoretical and experimental physics. The theoretical physicists did not generate empirical data and therefore did not keep research records as such; they considered their publications to be their research record. The experimental physicists stored data in notebooks and computer files on hard drives. Access to the computers was commonly restricted to members of the group. The notebooks remained with the group when the students graduated, but students were allowed to photocopy any notebook material they wanted.

### **Laboratory Safety**

The university's environmental and safety policies were among the few comprehensive policies that applied universitywide. Each school or administrative department had a designated environmental and safety compliance officer. The university offered a series of safety seminars, and, at the time of our inspection, had recently implemented a web page that faculty members will eventually use to maintain certification in safety programs that require regular updates.

## **Inspection at a State University in the West**

This inspection included 11 NSF grants. NSF's Directorate for Biological Sciences awarded eight grants for basic research and one grant for equipment. NSF's Directorate for Education and Human Resources awarded one grant for a Graduate Research Traineeship, and one grant was from NSF's Experimental Program to Stimulate Competitive Research (EPSCoR) program to create a multidisciplinary consortium of scientists to study ecosystem issues.

### **Program Review**

The focus of this inspection was the university's Division of Biological Sciences, which was formed in 1988 from the departments of biochemistry, botany, microbiology, and zoology. In contrast to recent concerns discussed in scientific literature about the difficulties of managing a group with diverse research interests, we found that Division members were pleased with its organization and that there were an increasing number of vigorous cross-disciplinary collaborative efforts. We concluded that the Division was becoming a powerful research group, but that this effort was hindered by serious space constraints. We were told that the construction of a new biological sciences building was a high priority for the university administration.

Few of the individuals with whom we spoke could locate their laboratory safety manuals or relevant information about the chemicals they handled. We learned that a recent Fire Marshal's inspection concluded that chemical storage, marking, securing, and signing was inadequate. Further, few of the PIs we interviewed had attended a meeting about chemical safety scheduled by the university just prior to our inspection. We recommended that the university conduct on-site inspections in each laboratory because we were concerned about laboratory safety. The university agreed with our recommendation and said that it would form a Division safety committee responsible for "continual" inspections and education.

We learned that the university was not handling the approval of research involving animal and human subjects appropriately. We made recommendations designed to improve its procedures. The university accepted our recommendations. We also learned that the university had received NSF funds for nonexempt human subjects research but had failed to file the proper assurances with NSF. We recommended that this research not go forward until this paperwork was completed and approved by NSF. The university informed us that the scientist has decided not to conduct this research and that it has informed NSF of this decision. It agreed to review all of its NSF awards to ensure that research involving human subjects is in conformance with the regulations.

### **Investigator Financial Disclosure**

The university was not in compliance with NSF's Policy. The university's policy addressing financial conflicts of interests was not adopted until over 2 months after NSF's Policy became effective, and university officials were unable to demonstrate that the university had an adequate system in place to ensure that disclosures of significant financial interests were made, and conflicts of interests identified, before proposals were submitted to NSF. For example, the university's policy left investigators to disclose "potential conflicts of interests" on their own initiative; the university treated silence as indicating that an investigator had nothing to disclose. The University had received no voluntary disclosures of "potential conflicts of interests" since its policy became effective, and none of the 10 investigators we interviewed was aware of the university's policy. We found that the university's policy did not meet NSF's requirements and contained inconsistent, ambiguous, and misleading language. As a result, even if the university community was aware of the university's policy, we did not believe it would generate the disclosures that NSF's Policy requires. Our review indicated that of the six proposals submitted to NSF during the period in which the university had no conflict-of-interests policy, two awards were made. All of the cover sheets accompanying these proposals incorrectly certified that the university was in compliance with NSF's Policy. From the time its policy was adopted until the time of our inspection, the university had submitted 50 proposals to NSF that resulted in 7 awards.

We recommended that the university revise and disseminate its policy, establish a system to maintain and track records of investigator financial disclosures for proposals submitted to NSF, and take steps to ensure that investigators are made aware of their financial disclosure responsibilities. We recommended that NSF's CPO ensure that the university fully complies with NSF's Policy and takes remedial action regarding all proposals the university submitted to NSF after NSF's Policy became effective, including all pending university proposals. NSF officials decided to delay action until they had seen the university's response to our draft inspection report and recommendations. The university agreed with our recommendations, but said it did not expect to revise and disseminate its new policy until December 31, 1997. After receiving the university's response, NSF officials gave the university explicit instructions to follow until it revises and implements its conflict-of-interests policy. The instructions dealt with awarded proposals submitted after NSF's Policy became effective, as well as with pending and future proposal submissions. NSF officials informed the university that no further awards would be made to the university until it had complied with these instructions.

### **Misconduct in Science**

We reviewed the university's "Alleged Misconduct Policy" and discussed misconduct-in-science issues with the PIs and students covered by the awards in this inspection as well as with several administrators. Among other suggestions, we recommended that the university's policy be revised to include its definition of misconduct in science, define who was covered by its policy, specify a burden of proof and a level of intent necessary for a finding of misconduct in science, and identify an adjudicator distinct from the individuals involved in the investigative effort. Because few of the people we spoke with were aware of the university's policy, we also recommended that the university widely disseminate its revised policy. The university agreed with our recommendations and said that it would disseminate its revised policy by December 31, 1997, and consider ways of heightening awareness among the faculty, staff, and students about ethical issues.

### **Financial Controls**

The university generally complied with NSF and other federal requirements. We identified minor compliance and internal control issues, for which we suggested improvements.

## Audit Reports Issued With Recommendations for Better Use of Funds

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	Dollar Value
A. For which no management decision has been made by the commencement of the reporting period	64,406,545
B. Recommendations that were issued during the reporting period (these were issued in 10 reports)	57,396,351
C. Adjustment resulting from resolution process	2,760,000
<b>Subtotal of A+B+C</b>	<b>124,562,896</b>
D. For which a management decision was made during the reporting period	19,676,900
(i) dollar value of recommendations that were agreed to by management	
<i>based on proposed management action</i>	19,010,000
<i>based on proposed legislative action</i>	0
(ii) dollar value of recommendations that were not agreed to by management	666,900
E. For which no management decision had been made by the end of the reporting period	104,885,996
For which no management decision was made within 6 months of issuance	60,739,645

## Audit Reports Issued With Questioned Costs

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	Number	Questioned Costs	Unsupported Costs
A. For which no management decision has been made by the commencement of the reporting period	39	6,998,361	2,568,221
B. That were issued during the reporting period	44	2,616,738	732,330
C. Adjustments to questioned costs resulting from resolution activities	0	0	33,675
Subtotal of A+B+C	83	9,615,099	3,334,226
D. For which a management decision was made during the reporting period	18	1,082,193	207,294
<i>(i) dollar value of disallowed costs</i>	N/A	832,262	N/A
<i>(ii) dollar value of costs not disallowed</i>	N/A	249,931	N/A
E. For which no management decision had been made by the end of the reporting period	65	8,532,906	3,126,932
For which no management decision was made within 6 months of issuance	30	5,435,678	2,414,981

## Additional Performance Measures

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As required by the Inspector General Act of 1978, we provide tables in each Semiannual Report to the Congress that give statistical information on work conducted by our audit and investigation units.

Tables that provide statistics concerning these required performance measures are on [pages 24, 31, and 45](#). GAO and OMB suggested that Offices of Inspector General develop additional performance measures that provide information about their activities. As a result, we developed two additional performance measures to provide additional insights about the work of our office. The two additional measures are “Cost Sharing Shortfalls” and “Systemic Recommendations.”

**COST-SHARING SHORTFALLS**—NSF seeks to leverage its resources by acting as a catalyst, promoting partnerships, and, in some cases, obligating grantees to contribute substantial nonfederal resources to a project. When NSF award documents require substantial cost sharing, we seek to determine whether grantees are in fact providing promised resources from nonfederal sources.

We divide cost-sharing shortfalls into two categories. Shortfalls occurring during the life of a project indicate that the grantee may not be able to provide all promised resources from nonfederal sources before completing the project. Shortfalls that remain when a project is complete demonstrate that a grantee has in fact not met cost-sharing obligations; these

findings result in formal questioned costs. The table on [page 64](#) provides statistical information about shortfalls occurring during the course of a project and at the completion of the project.

Auditors who conduct financial statement audits at grantee organizations may identify a general deficiency concerning cost sharing (which we classify as a “compliance finding”) but often do not identify the amount of a cost-sharing shortfall (which we classify as a “monetary finding”) because it is not material in the context of the organization’s overall financial statement presentation. We track both monetary and compliance findings that involve cost sharing.

**SYSTEMIC RECOMMENDATIONS**—OIG staff members regularly review NSF’s internal operations. These reviews often result in systemic recommendations that are designed to improve the economy and efficiency of NSF operations.

We routinely track these systemic recommendations and report to NSF’s Director and Deputy Director quarterly about the status of our recommendations. The table on [page 65](#) provides statistical information about the status of all systemic recommendations that involve NSF’s internal operations.

## Audit Reports Involving Cost-Sharing Shortfalls

	Number of Reports	Cost Sharing Promised	At Risk of Cost- Sharing Shortfall/ (Ongoing Project)	Cost- Sharing Shortfalls at Completion of the Project*
A. For which no management decision has been made by the beginning of the reporting period				
1. Reports with monetary findings	8	27,324,344	15,691,416	221,722
2. Reports with compliance findings	9	N/A	N/A	N/A
B. That were issued during the reporting period				
1. Reports with monetary findings	12	33,684,309	14,790,114	220,681
2. Reports with compliance findings	2	N/A	N/A	N/A
Total of Reports With Cost-Sharing Findings (A1+A2+B1+B2)	31	61,008,653	30,481,530	442,403
C. For which a management decision was made during the reporting period				
1. Dollar value of cost-sharing shortfall that grantee agrees to provide	0	0	0	0
2. Dollar value of cost-sharing shortfall that management waives	1	121,717	0	34,333
3. Compliance recommendations with which management agreed	4	N/A	N/A	N/A
4. Compliance recommendation with which management disagreed	0	N/A	N/A	N/A
D. For which no management decision has been made by the end of the reporting period				
1. Reports with monetary findings	19	60,886,936	30,481,530	408,070
2. Reports with compliance findings	7	N/A	N/A	N/A

\* These findings result in questioned costs and are also identified in our table on questioned costs on [page 62](#).



## Status of Systemic Recommendations That Involve Internal NSF Management

### Open Recommendations

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Recommendations Open at the Beginning of the Reporting Period	45
New Recommendations Made During Reporting Period	36
Total Recommendations to be Addressed	81

### Management Resolution<sup>1</sup> of Recommendations

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Recommendations Awaiting Management Resolution	9
Recommendations Resolved by Management	72
Management Agrees to Take Reasonable Action	72
Management Decides No Action is Required	0

### Final Action<sup>2</sup> on OIG Recommendations

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Final Action Completed	34
Recommendations Open at End of Period	47

### Aging of Open Recommendations

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Awaiting Management Resolution:	
0 through 6 Months	9
7 through 12 Months	0
more than 12 Months	0

### Awaiting Final Action After Resolution

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0 through 6 Months	18
7 through 12 Months	16
13 through 18 Months	0
19 through 24 Months	2
more than 24 Months	2

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<sup>1</sup> “Management Resolution” occurs when management completes its evaluation of an OIG recommendation and issues its official response identifying the specific action that will be implemented in response to the recommendation.

<sup>2</sup> “Final Action” occurs when management has completed all actions it had decided are appropriate to address an OIG recommendation.

**Recommendations Where Management Decides No Action Is Required**

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None to report during this period.

**Recommendations Awaiting Management Resolution for More Than 12 Months**

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None to report during this period.

**Recommendations Awaiting Final Action for More Than 24 Months**

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Report Title	Date	Issue
<a href="#">Review of NSFNET</a>	03/23/93	<a href="#">Audit of Infrastructure Account</a>
Review of NSF's Property Management System	04/21/95	Responsibilities of Property Custodians

## List of Reports

### NSF and CPA Performed Reviews

Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds*	Cost Sharing at Risk
97-1014	School District	57,202	0	0	0
97-1015	Research Foundation	0	0	0	0
97-1016	Oceanographic Institute	10,866	0	0	0
97-1017	School Board	985	985	0	0
97-1018	School District	173,877	123,406	0	0
97-1019	Nonprofit	38,681	24,316	0	0
97-1020	School District	104,320	63,441	0	487,837
97-1021	Public School System	49,455	11,435	0	292,352
97-1022	School District	0	0	0	20,607
97-1023	University	134,358	0	0	0
97-1024	School District	52,151	33,134	0	822,279
97-1025	School District	345,937	0	0	11,511,738
97-1026	Nonprofit	144,520	0	0	0
97-1027	School District	133,478	9,500	0	624,626
97-1028	School for Science and Mathematics	251,639	218,102	0	0
97-1029	Public School System	397,967	183,951	0	138,314
97-1030	Laboratory	4,312	0	0	0
97-1031	Research Corporation	314,690	0	2,341,945	0
97-1032	Communications Company	49,194	38,651	0	0
97-2111	Ocean Drilling Program	0	0	0	0
97-2112	International Ocean Drilling Program	0	0	0	0

\* Over 5 years

<b>Number</b>	<b>Subject</b>	<b>Questioned Costs</b>	<b>Unsupported Costs</b>	<b>Better Use of Funds*</b>	<b>Cost Sharing at Risk</b>
97-2113	U.S. Antarctic Program	0	0	2,788,000	0
97-2114	Preaward Analysis of Research Proposal	0	0	8,125,000	0
97-2115	Research Center	0	0	2,800,000	0
97-2116	Hiring Scientists in Temporary Positions	0	0	10,500,000	0
97-2117	Budget for SBIR Programs	0	0	13,250,000	0
97-6014	Public School System	16,680	0	0	0
97-6015	Atmospheric Research	0	0	335,000	0
97-6016	University Foundation	0	0	0	0
97-6017	Communications Company	81,985	0	17,256,406	0
	<b>Total</b>	<b>2,362,297</b>	<b>706,921</b>	<b>57,396,351</b>	<b>13,897,753</b>

\* Over 5 years

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## NSF-Cognizant Reports

Number	Subject	Questioned Costs	Unsupported Costs	Cost Sharing at Risk
97-4046	Mathematics Society	4,060	0	0
97-4048	Professional Association	3,827	0	892,361
97-4070	Botanical Garden	54,594	0	0
97-4071	Science Museum	1,439	0	0
97-4101	Institute	1,797	0	0
97-4104	Science & Technology Council	4,611	4,611	0
97-4111	Professional Association	653	0	0
97-4114	Science Society	3,810	0	0
97-4133	Research Station	4,812	0	0
97-4137	Scientific Society	65,200	0	0
97-4141	Science Center	1,238	1,238	0
97-4148	Public TV / Radio Company	8,900	0	0
97-4157	Children's Museum	350	0	0
97-4167	Institute	312	0	0
97-4168	Scientific Society	51,594	0	0
97-4173	Science Foundation	243	14	0
	<b>TOTAL</b>	<b>207,440</b>	<b>5,863</b>	<b>892,361</b>

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## Other Federal Audits

<b>Number</b>	<b>Subject</b>	<b>Questioned Costs</b>	<b>Unsupported Costs</b>
97-5305	State Audit	61	0
97-5346	University	7,198	0
97-5352	College	550	0
97-5355	College	3,311	152
97-5356	University	1,414	0
97-5357	Association of Junior Colleges	19,394	19,394
97-5358	University	1,979	0
97-5455	University	12,811	0
97-5456	Graduate School	283	0
	<b>TOTAL</b>	<b>47,001</b>	<b>19,546</b>

## **Audit Reports With Outstanding Management Decisions**

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This section identifies audit reports involving questioned costs, funds put to better use, and cost sharing at risk where management had not made a final decision on the corrective action necessary for report resolution within 6 months of the report's issue date. At the end of the reporting period, there were 30 audit reports with questioned costs, 3 reports with recommendations for funds to be put to better use, and 4 items involving cost sharing at risk. The status of systemic recommendations that involve internal NSF management are described on [page 65](#).

Report Number	Title	Date Report Issued	Dollar Value	Status
<b>Items Involving Questioned Costs</b>				
95-1022	BBN Laboratories	03/06/95	122,067	1
95-1042	Mr. Wizard Foundation	03/31/95	157,780	1
95-1048	Virginia State Department of Education	09/01/95	317,664	1
95-5722	State of South Dakota	09/22/95	113,204	1
96-1002	North Carolina Department of Administration	10/01/95	181,459	1
96-1003	Texas Education Agency and University of Texas	11/14/95	514,268	1
96-1009	Society of Automotive Engineers	03/26/96	33,962	1
96-1014	American Educational Research Association	03/20/96	211,879	1
96-1015	Blackfeet Community College	03/29/96	258,955	3
96-1018	Woodrow Wilson National Fellowship	03/27/96	24,657	1
96-1024	College Board	03/28/96	171,663	1
96-1025	Franklin Institute Science Museum	03/28/96	237,678	1
96-1027	Abt Associates	03/28/96	828,915	1
96-1031	National Learning Center	09/30/96	337,377	1
96-2113	AMSI	08/28/96	4,054	1
96-5024	University of Wisconsin	03/06/96	177,669	1
97-1002	Discovery Museum	12/26/96	128,108	1
97-1003	Please Touch Museum	02/07/97	66,994	1

Report Number	Title	Date Report Issued	Dollar Value	Status
97-1004	Jenks Public Schools	02/07/97	130,996	1
97-1007	Chattanooga Public Schools	02/13/97	333,753	1
97-1009	Cambridge School Department	03/12/97	25,785	1
97-1010	Sacred Heart University	03/13/97	451,147	1
97-1011	Academic Research Infrastructure	04/09/97	109,209	1
97-1012	American Mathematical Society	03/18/97	341,057	1
97-4022	Girls Inc., of Alameda County	03/28/97	2,484	1
97-4023	American Meteorological Society	03/24/97	1,924	1
97-5065	Stanford University	03/21/97	1,260	1
97-5066	Rochester Institute of Technology	03/21/97	900	1
97-6010	University of Colorado - Boulder	02/28/97	148,398	1
97-6013	Eagle-Union Community School Corporation	03/11/97	412	1
<b>Items Involving Funds Put to Better Use</b>				
97-2106	National Radio Astronomy Observatory	03/31/97	721,945	3
97-2107	Review of Funding for Development of the Internet	03/31/97	60,000,000	3
97-6006	Small Business Grantee	02/05/97	17,700	3
<b>Items Involving Cost Sharing at Risk</b>				
97-1003	Please Touch Museum	10/04/96	19,829	2
97-1008	Poway School District	11/13/96	268,388	2
97-1009	Cambridge School Department	10/18/96	901,263	2
97-2103	Academic Research Infrastructure	03/05/97	14,501,936	2

**Status Codes**

1 = Resolution is progressing with final action expected in next reporting period.

2 = Information requested from grantee not yet received in full.

3 = Further negotiations required before resolution.



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