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REPORT

TO THE

CONGRESS

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National Science Foundation

OFFICE OF INSPECTOR GENERAL



**Semiannual
Report to the
Congress**

NATIONAL SCIENCE FOUNDATION

Letter to the National Science Board and the Congress

This is our seventh Semiannual Report to the Congress. It describes our activities and accomplishments for the second half of fiscal year 1992. 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 past 3 years, we have matured as an office and improved our ability to conduct audits and investigations. We have also developed a strong oversight program that includes responsibility for investigating allegations of misconduct in science. This report highlights: the first year of a 2-year pilot program that was initiated in response to congressional concerns, our first audit of the Financial Statements prepared by NSF in compliance with the Chief Financial Officers Act, and audits of two major recipients of NSF funding. It also discusses two new definitions of misconduct in science, two cases of plagiarism where the intent of the scientist is at issue, and a proposed financial disclosure policy for principal investigators funded by NSF. Our report also documents over \$800,000 in investigative recoveries.

We wish to acknowledge the role the Senate Committee on Governmental Affairs played in developing our pilot program, which expands audit coverage of university-wide audits conducted by other federal agencies, and we extend our appreciation to the National Science Board for its continued support. We look forward to working with the Director of NSF and his management team to ensure the success of the agency's mission and operations.

Linda G. Sundro
Inspector General
October 31, 1992

Executive Summary

Financial Audits:

Completed the first year of a 2-year pilot program aimed at assessing the adequacy of financial administration of NSF grants at large research institutions (page 3). We found:

- some universities did not routinely comply with NSF award agreements and other federal requirements, and
- \$112,383 in questioned costs.

Fulfilled the audit requirements of the Chief Financial Officer's Act (page 5).

- We initially issued a qualified statement because of errors and omissions in the Principal Statements, the Notes to the Principal Statements, and Supplemental Schedules.
- We also identified three accounts (totaling approximately \$2.7 million) that we believed should have been included in the CFO's Annual Financial Statement. NSF's CFO did not agree with our finding, so we recommended that he obtain a written opinion from the Office of Management and Budget about whether these accounts should be included in NSF's yearly financial statements.

Conducted reviews of Federally Funded Research and Development Centers that focused on indirect cost rates at one of the Centers and the renewal of operating contracts with Centers' managers (page 8).

Reviewed part of NSF's Financial Accounting System to evaluate the integrity of the computer programs that are used to process expenditure transactions. In FYs 1991 and 1992, NSF spent \$5.9 million and \$6.8 million, respectively, for electronic data processing of hardware and software products and services (page 10). We found:

- the contractor spent several months and \$224,000 to develop a general systems design document that did not accurately describe the Financial Accounting System, and
- some of the Financial Accounting System's manuals were inadequate because they had not been updated to provide for design changes made during development and testing of the software.

Criminal Investigations:

Recovered \$807,514 (page 17).

Reviewed an allegation that a principal investigator diverted NSF and a nonprofit society's grant funds (page 17). As a result:

- the principal investigator repaid over \$232,000 to the university, which returned the funds to the government and the society; and
- the U.S. Attorney accepted this matter for prosecution for theft of \$47,350 in NSF grant funds and defrauding the society of \$21,841.

Misconduct in Science:

Commented on two proposed new definitions of misconduct in science. We express concern about whether either of the new definitions can adequately handle the range of cases of misconduct we encounter (page 22).

Completed two plagiarism cases that illustrate the difficulties universities have in investigating questions of intent (page 24).

Conflict of Interest:

Monitored NSF's first steps in implementing a system to identify potential financial conflicts of interest on the part of principal investigators who apply for NSF grants. NSF's Director supports the development of such a system. NSF recently published, and solicited public comments on, a proposed investigator financial disclosure policy, which evaluates the scientific merit of proposals without regard to any financial interest disclosed (page 29).

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ACRONYMS

CFO	Chief Financial Officer
COSEPUP	Committee on Science, Engineering, and Public Policy
DAS	Division of Administrative Services
DFM	Division of Financial Management
DGC	Division of Grants and Contracts
FAS	Financial Accounting System
FAR	Federal Acquisition Regulation
FFRDC	Federally Funded Research and Development Center
JOI	Joint Oceanographic Institutions, Inc.
NAIC	National Astronomy and Ionosphere Center
NAS	National Academy of Sciences
NATO	North Atlantic Treaty Organization
NCAR	National Center for Atmospheric Research
ODL	Overseas Drilling Limited
OEO	Office of Equal Opportunity
OFPP	Office of Federal Procurement Policy
OLPA	Office of Legislative and Public Affairs
OMB	Office of Management and Budget
PCIE	President's Council on Integrity and Efficiency
PHS	Public Health Service
TAMRF	Texas A&M Research Foundation
UCAR	University Corporation for Atmospheric Research

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

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AUDITS

The Office of Audit is responsible for auditing grants, contracts, and cooperative agreements funded by NSF's programs and operations and for ensuring that reviews of financial, administrative, and programmatic aspects of activities are performed. The Office evaluates internal controls, reviews data processing systems, examines allegations of improper actions by NSF staff, and follows up on the implementation of recommendations included in audit reports.

All audit reports processed by the OIG are referred to NSF management for action or information. The Office of Audit advises and assists NSF's Division of Grants and Contracts (DGC) in its resolution of the recommendations resulting from the reviews. The Office of Audit also assists NSF by acting 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.

AUDIT ACTIVITIES

Over the past 3 years, we have improved our ability to conduct audits of NSF's program operations, and we expect to continue to mature as an organization. Commensurate with this expectation, the Inspector General is reviewing the Office of Audit's operations and is developing a strategic plan for the future. This plan includes:

- integration of the internal and external components of the Office of Audit;
- development of better ways to identify potential audit issues and examine them; and
- a system to identify opportunities for audits through in-house reviews.

Most audit resources will continue to be devoted to external operations because most of the funds appropriated to NSF are used to provide support to individuals and institutions involved in science and engineering research and education.

Congress has increased NSF's budget from approximately \$1.6 billion in FY 1989 to \$2.7 billion in FY 1993. As a result, we are increasing our oversight of the following three programs.

Science and Engineering Education: NSF has increased funding for science and engineering education from \$171 million in FY 1989 to \$487 million in FY 1993. We consider NSF's science education programs to be a significant potential risk to NSF because many of the organizations and individuals that receive support under these programs are new to NSF and the growth in funding for this area has been unusually rapid. As a result, our oversight of these awards will increase.

Science and Engineering Centers: These 25 centers fund research and education activities and encourage technology transfer and innovative approaches to interdisciplinary problems. Centers received an average of \$1.9 million each in FY 1992. The centers are more difficult and time consuming to audit as compared with individual investigator research awards, which are typically under \$500,000. We plan to increase our audits of centers, including those centers for which NSF is not cognizant.

Antarctic Program: In FY 1993, President Bush requested that Congress appropriate \$165 million to assist NSF in maintaining this program. The program supports research and serves as the nation's presence in Antarctica, while protecting the continent's fragile environment under the aegis of the Antarctic Treaty

and various agreements entered into by the Treaty nations. NSF has overall management responsibility for operations conducted in Antarctica. Because this area of the world is so remote, it is difficult to conduct routine audits to ensure that program objectives are being met. This lack of routine audit coverage increases the risk of financial loss and program mismanagement. We plan to strengthen our review of the Antarctic program and develop solutions to the difficulties that arise in attempting to audit work that is conducted in such a remote location.

In response to congressional concerns, the Office of Audit reviewed individual grants at eight major universities. In addition, the Office conducted its first audit of the Financial Statements prepared by NSF in compliance with the Chief Financial Officers Act. We also performed audits at two major recipients of NSF funding: the Joint Oceanographic Institutions, Inc., and the University Corporation for Atmospheric Research.

OIG COMPLETES FIRST YEAR OF 2-YEAR PILOT PROGRAM

In September 1991, the Senate Committee on Governmental Affairs conducted a hearing on the effectiveness of governmental oversight of NSF awards. The Committee and the General Accounting Office questioned whether audits of universities that were conducted by the cognizant agencies (such as the Department of Health and Human Services and the Defense Contract Audit Agency) under the Single Audit Act provided an adequate review of expenditures charged to NSF awards. Given our limited resources, it had been our policy to audit grantees for which we do not have audit cognizance only in those situations where a specific allegation or issue warranted a “for cause” audit.

The Committee requested that we provide more aggressive audit coverage of universities where university-wide audits are conducted by the Department of Health and Human Services, the Defense Contract Audit Agency, and other federal agencies. In response to the Committee’s concerns, we initiated a 2-year pilot program to determine whether, and to what extent, we should use audit resources to conduct audits of NSF awards at universities where other federal agencies have “single audit” responsibility.

We have completed the first year of the pilot program. During this year, we selected 8 universities and audited approximately \$6.4 million in costs claimed under 25 Division of Materials Research awards. Our audits resulted in \$112,383 in questioned costs charged to 22 of the 25 awards. Questioned costs resulted from 33 findings, including:

- indirect costs that were charged as direct costs,
- indirect costs charged at rates in excess of those approved,
- claimed costs that could not be allocated to a specific award, and
- costs incurred before the effective date of the awards without proper approval.

Our review found that (1) some universities were not always complying with NSF award agreements and other federal requirements, (2) principal investigators improperly approved their own travel plans and resulting costs, (3) employees did not always receive salary costs charged to the awards, (4) the official assigned to approve changes in categories of expenditures did not have a scientific background and so could not assess the programmatic effects of budget realignments, and (5) established rates for specialized facility services and stockroom supplies were not being reviewed periodically.

Our review also raised concerns about whether grant budgets are intended to set parameters for expenditures under individual awards for principal investigators and university grant administrators. If a budget does not contain clearly articulated expectations for expenditures, neither NSF's program staff nor university management will be able to determine what items or services are needed to accomplish the grant's objective.

Before university management expends grant funds for items not included in the original budget, it should compare the original line-item budgets to the proposed changes. This comparison is intended to ensure that the proposed realignment of resources will not change the scope of the

research and that acquisition of other essential resources will not be preempted. Since the current system does not require that detailed line-item budgets be prepared, it is often not possible to determine which budgeted items have been purchased or which planned purchases can be canceled to fund newly identified needs.

Some of the budget line items that we reviewed were so poorly described that funding categories could have been changed without institutional approval, and purchases could have been made that were not included in the original budget. For example, at one university, the principal investigators exceeded the budget for miscellaneous costs by 2,886 percent of the original budget (the "other" category in the original budget was \$500, while the actual expenditures in this budget totaled \$14,933). We also noted that materials and supplies were budgeted as high as \$53,000, with little or no explanation of intended expenditures.

We believe NSF's Division of Materials Research's policy of not requiring detailed budget submissions has permitted inadvisable, poorly documented changes in the awards' budgets. Although it might initially appear that poorly described line-item budgets permit principal investigators greater flexibility in administering grant awards, these poor controls actually increased the

probability that impermissible budget changes will occur and will ultimately result in questioned and disallowed costs.

In addition, unexplained shifts in funds from one category to another can often indicate an unapproved change in the project's scope. We believe NSF needs to develop a system that will encourage the development of more specific costs in budget submissions. Implementation of such a system will help sponsoring institutions to evaluate the appropriateness of budget changes proposed by principal investigators and avoid unapproved changes in projects' scopes.

We hope to develop other systemic findings in the second year of this review. At the close of the 2-year period, we plan to incorporate all of our findings in a report to the Congress, NSF's Director, and the university community. At this point, it appears that our individual grant reviews are helpful in supplementing "single-audit" coverage by reviewing areas that those systemic audits are not intended to cover. On that basis, we plan to continue this pilot program.

CHIEF FINANCIAL OFFICERS ACT

In our last semiannual report (page 9), we discussed the requirements of the Chief Financial Officers (CFO) Act of 1990 and the process that NSF was using to comply with the Act. The Act requires that the CFO submit an Annual Financial Statement to the Office of Management and Budget (OMB) by March 31 of each year; that OIG audit the Annual Financial Statement and submit a report to the agency head by June 30 of each year; and that the CFO submit an Annual Report that incorporates the Annual Financial Statement and the Auditor's Reports to OMB by August 31 of each year. Although our office is the smallest of all of the Offices of Inspector General covered by the Act, we complied with these requirements and met each of our milestones in doing so. Compliance with the Act's financial and audit requirements was a significant achievement for our office because we have limited resources to conduct special projects of this magnitude. The process that we used to comply with the Act is discussed below.

- The CFO prepared and submitted NSF's first Annual Financial Statement to OMB on March 31, 1992. This submission included an overview of the reporting

entity, Principal Statements, notes to the Principal Statements, and supplemental financial and management information. The CFO's statement only provided information on NSF's Donations Account because NSF's CFO determined that this was the only account subject to the Act's reporting requirements.

- We audited the CFO's Annual Financial Statement and issued Auditor's Reports on Principal Statements, internal controls, and compliance and issued a Management Letter to the Director of NSF on June 30, 1992.

We initially issued a qualified opinion in our reports because of errors and omissions in the Principal Statements, the Notes to the Principal Statements, and Supplemental Schedules. Before we issued our final reports, in response to our findings, the CFO corrected the identified errors and omissions. As a result, we revised our findings and provided an unqualified opinion in the Auditor's Report on Principal Statements. We also identified one North Atlantic Treaty Organization (NATO) and two Department of State funds that had characteristics similar to those of the Donations Account and that we believed should have been included in the CFO's statement. The amounts of these three accounts were substantial as compared to the Donations

Account. As of September 30, 1991, the NATO account totaled approximately \$4.4 million and the two Department of State accounts totaled approximately \$1.3 million. We have not been able to reach an agreement with the CFO on whether the NATO and Department of State funds should be included in the Annual Financial Statement. Therefore, we recommended that NSF obtain a written opinion from OMB about whether these accounts should be included in NSF's yearly financial statements and subsequently audited.

In addition, we noted that audit coverage of NSF awards by cognizant audit agencies was limited, that NSF's cost accounting system was not fully implemented, and that the Overview and Supplemental Financial Management Sections of the Annual Financial Statement did not adequately present performance data.

Our Management Letter recommended that NSF: (1) report outstanding advances to grantees and contractors in the Principal Statements; (2) include an adequate analysis of NSF's financial condition, results of operation, and performance data in its overview section; (3) continue to include NSF's U.S.-Saudi Arabia Joint Commission Program in the Donations Account; (4) maintain Federal Cash Transactions Reports on file to document

grantee expenditures; (5) promptly endorse and record checks in a cash receipts journal; and (6) obtain an opinion from OMB on whether the NATO and Department of State accounts should be included in the next CFO statement. NSF concurred with most of the recommendations in the Management Letter.

We are hopeful that OMB will provide written guidance on whether the U.S.-Saudi Arabia Joint Commission Program, the NATO fund, and the Department of State funds should be included in the Donations Account. If OMB does not provide resolution and the FY 1992 Annual Financial Statement does not include these funds, we have informed the CFO that we will issue a qualified opinion in the 1992 Auditor's Report on Principal Statements.

JOINT OCEANOGRAPHIC INSTITUTIONS AND THE OCEAN DRILLING PROGRAM

We conducted several audits to review one of the major programs sponsored by NSF and its international partners. This long-term initiative, which is focused on the Ocean Drilling Program, involves research on the earth's crust beneath the ocean. This program is managed by the Joint Oceanographic Institutions, Inc. (JOI), a not-for-profit consortium of 10 U.S. oceanographic institutions. Texas A&M Research Foundation (TAMRF), through a subcontract with JOI, serves as the science operator for the Ocean Drilling Program. As the science operator, TAMRF staffs the drill ship; maintains shipboard scientific laboratories; provides logistic and technical support for shipboard scientific activities, including retrieving samples of earth (cores) from strategic locations worldwide; curates the cores and distributes core samples; and edits and publishes the test results. TAMRF leases the drill ship from Overseas Drilling Limited (ODL) and has a subcontract with ODL to operate the drill ship.

We conducted two audits of the international funding provided through the Ocean Drilling

Trust Fund. These audits (1) tracked the funding provided by other countries through the NSF-controlled trust fund, (2) provided certification to the funding countries that their contributions of approximately \$16 million each year were properly accounted for and supported the program, and (3) provided data for a portion of the CFO audit and statement requirements. We also conducted:

- An audit of the subcontract activities of TAMRF, which is responsible for oversight and management of the actual drilling process.
- An audit of the contract for the ship and drilling support provided under a sub-subcontract between TAMRF and ODL.
- A review of the A-133 audit of JOI provided by JOI's certified public accounting firm.
- Audits of support to JOI and nine other grants that fund storage of, and research activities conducted on, cores resulting from the deep sea drilling operation. (Tracking of the funding for storage, and maintenance activities required reviews at Columbia University and Scripps Institute.)

These six audits covered 3 years of NSF and international support totaling

approximately \$134 million. Our audits generally concluded that the Ocean Drilling Program was progressing as planned. However, we believe that TAMRF should reassess its policy of charging the drilling contract for certain staff members' travel costs, and that ODL should maintain ledgers that record all expenditures related to the Ocean Drilling Program. The current system tracks only the amounts billed to TAMRF. (This finding has been cited in previous audits.)

We questioned \$342,000 in costs on the nine NSF grants reviewed. These findings resulted from (1) poor practices in the areas of travel, consultants' costs, and audit requirements for subcontractors and grantees, and (2) JOI's position that it should evaluate the Ocean Drilling Program every 3 years, instead of the every 2 years, as contractually required. Many of the findings resulted from a lack of documentation and/or NSF approvals for funds expended. Although it is possible that NSF informally approved some of the activities that resulted in questioned costs, the documentation formalizing these approvals was not maintained by NSF or JOI.

JOI's program office responded to the findings stating that it believed it had approval to (1) incur consultant costs without prior NSF approval and without supporting invoices, (2) budget participant

support costs that were not used to support other direct costs, and (3) claim indirect costs that exceeded the final audited indirect cost rate. To resolve these issues, NSF will have to determine the program office's intent when the expenditures were incurred.

Under a provision added to the National Science Foundation Act in 1985, NSF is authorized to indemnify the contractor for the Ocean Drilling Program. During our recently completed review of the contractor's audits, we found that the contractor had been reimbursed approximately \$2.7 million for private umbrella insurance since 1985. Because of the high cost of continued private insurance and NSF's potential financial and legal obligations if a claim were filed, we have asked NSF to reassess the appropriateness of indemnifying the contractor.

During the Senate hearing discussed on page 3, Congress asked us whether A-133 audits identified findings similar to those developed by our financial and compliance audits. In this case, the answer is "no." The A-133 report did not identify questioned costs associated with NSF funds, but our

detailed review questioned \$342,000. The detailed findings we developed at JOI headquarters could only have been found by an extensive, detailed examination of individual transactions rather than the systems reviews conducted under A-133.

FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS WERE REVIEWED

Inadequate oversight of Federally Funded Research and Development Centers (FFRDCs) was also the subject of a July 1992 report by the Senate Subcommittee on Oversight of Government Management entitled, *Inadequate Federal Oversight of Federally Funded Research and Development Centers*. We conducted two reviews of FFRDCs. At one of the FFRDCs, we focused on indirect cost issues. Both audits reviewed the process of renewing operating contracts at the FFRDCs. The results of the reviews are discussed below.

UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

The University Corporation for Atmospheric Research (UCAR) is a nonprofit organization comprised of 59 institutions located in the United States and Canada. UCAR oversees a variety of scientific programs and facilities that serve its member institutions and the scientific community. Each member institution contributes to UCAR, but NSF provides the primary support through a

cooperative agreement with UCAR to operate the National Center for Atmospheric Research (NCAR). NCAR is funded by NSF and is a FFRDC, but it is not a federal laboratory.

We reviewed the indirect cost proposal UCAR prepared for FY 1993 and worked with UCAR and its independent public accountants on the development of an A-133 audit report. We conducted this review to ensure that UCAR complied with OMB guidelines. We also reviewed the plans for the renewal of the cooperative agreement between NSF and UCAR for the management of NCAR.

We reviewed UCAR's 1993 proposal for indirect cost and facility use rates to ensure that UCAR was equitably distributing indirect costs and to establish indirect cost billing rates for FY 1993. We selectively tested FY 1991 costs for support for indirect costs claimed and discussed the function of selected FY 1991 and FY 1993 accounts with UCAR staff to determine whether the costs were reasonable, allowable, and adequately distributed among UCAR, NCAR, and other programs managed by UCAR. Based on our tests and discussions, we questioned \$8 million of the FY 1993 proposal.

We found that items were included in the indirect cost centers that did not belong in those accounts, that depreciation had been overstated because UCAR charged depreciation on federally funded buildings and equipment, that occupancy rates included unallowable interest expense, and that variances from prior years were not properly recognized. These variances resulted in proposed administrative and occupancy rates that exceeded the actual rates acceptable under OMB's cost standards.

The A-133 report prepared by UCAR's certified public accountant disclosed that NSF had guaranteed significant debt service charges, and that UCAR had charged interest on its debt services to the indirect cost pool. The report also identified issues that needed to be clarified by written agreements between NSF and UCAR. These issues included (1) whether UCAR had NSF's approval to maintain federal funds in non-interest-bearing accounts; (2) whether UCAR had NSF's approval to withdraw cash under an NSF letter of credit to fund other federal programs; and (3) whether UCAR needed NSF's written approval for indirect cost rates. The report also noted that some property in one of UCAR's departments was not tagged as government-owned property.

Our review of the renewal process for NCAR's management contract found that the management agreement had been extended for a period not to exceed 1 year, and that the renewal process had been delayed pending NSF's review and resolution of certain management issues.

We will continue our oversight of UCAR during the negotiation of indirect cost rates and throughout the process of the renewal of NCAR's cooperative agreement.

NSF Federally Funded Research and Development Center Sponsoring Agreements

In April 1984, OMB's Office of Federal Procurement Policy (OFPP) issued a letter that required agency reviews of renewals of operating agreements with FFRDC managers. In February 1990, this letter was incorporated into the Federal Acquisition Regulation (FAR). The FAR made it clear that agency management is responsible for periodically reviewing FFRDCs to determine whether: (1) the sponsor's special technical needs are examined, (2) alternative sources to meet the sponsor's needs are considered, (3) the efficiency and effectiveness of meeting the sponsor's needs are assessed, (4) FFRDC management ensures that the operation is cost-effective, and (5) the

criteria for establishing the FFRDC are satisfied. Before the FAR incorporated the OMB letter, NSF had taken the position that this OMB requirement did not apply to its FFRDC renewals.

OFPP has requested assistance from the Inspector General community to review agency adherence to this FAR requirement. In response to that request, we conducted a review to determine whether NSF was assessing the use of, and the need for, its FFRDCs before NSF extended their cooperative agreements.

NSF is the federal sponsor for: the National Astronomy and Ionosphere Center (NAIC), the National Optical Astronomy Observatories, NCAR, and the National Radio Astronomy Observatory. Funding for these FFRDCs over the last 5 years has been \$48.8 million, \$149.5 million, \$365.6 million, and \$174.8 million, respectively.

The NAIC management contract was being renewed in March 1990 when the FAR section that implements the OMB letter was issued. As a result, the renewal of the NAIC management contract was not conducted in compliance with the FAR requirements. Specifically, the review of the NAIC operation agreement did not contain an assessment of NAIC's efficiency and effectiveness in meeting NSF's

needs or an assessment of whether NAIC was operated cost-effectively. Because of these omissions, the National Science Board recommended that NSF review the management of NAIC within 2 years of the renewal of the agreement.

NCAR's cooperative agreement was scheduled to expire on September 30, 1992. NSF management began the performance review required by the FAR so that the review's findings could be used in the development of the new management agreement.

This performance review identified a number of concerns that should be resolved before NCAR's renewal. These include (1) whether the expansion of UCAR programs has adversely affected the quality of its management of the NCAR program; (2) whether the growth of NCAR's nonfederal funding has changed its focus from that of a basic research institution to that of an applied research institution; and (3) whether the UCAR proposal adequately sets priorities for NCAR studies and projects to be performed over the 5-year funding period.

The existing cooperative agreement has been extended for up to 1 year so that these issues can be addressed before entering into the new 5-year agreement. We plan to continue our oversight of the renewal process as required by

the FAR and the OFPP letter. We are also planning to address the concerns of the Senate Subcommittee on Oversight of Government Management regarding the management of FFRDCs. (See the discussion of UCAR/NCAR indirect costs and the A-133 report on UCAR on page 8 of this report.)

Review of Expenditure Transaction Processing Within NSF's Financial Accounting System

We conducted a review to assess the integrity of the computer programs that comprise the automated information systems used at NSF. NSF employs a contractor for development of about 75 percent of its new systems. NSF is responsible for about 60 percent of its automated system maintenance. NSF's Division of Information Systems managed contracts for automated data processing hardware and software products and services totaling \$5.9 million and \$6.9 million in FYs 1991 and 1992, respectively. We reviewed one section of the Financial Accounting System (FAS), which is used to collect, process, and report NSF's financial activities.

We conducted our review in accordance with requirements set forth in the 1986 revision of OMB Circular A-123, which stipulates that agencies must establish and maintain cost-effective internal control systems to protect government resources against fraud, waste, mismanagement, or theft. In addition, we used as a guide for this review, the January 1988 *Model Framework for Management Control Over Automated Information System*, which was jointly prepared by the President's Council on Management Improvement and the President's Council on Integrity and Efficiency (PCIE). The purpose of this framework was to summarize all of the directives that contain guidance on protecting automated information system operations.

Our review found that the contractor spent several months and \$224,000 to develop a general system design document. The general system design document should provide a nontechnical description of the system and what it is designed to do during system development, testing, and implementation. The document was not updated to provide for design changes. In addition, we found that certain manuals for FAS were not adequate in meeting their basic purposes. We recommended that a current and accurate general system design, detailed system design, and users manuals for FAS be produced.

We are negotiating with NSF management on the implementation of these recommendations. In addition, we found that FAS's operation in the areas of program library security, security checks for system development personnel, and system access security for users were adequate.

We will be continuing our work in this area by participating in the PCIE Computer Systems Integrity Project. This Project has successfully identified areas where federal agencies can strengthen the overall integrity of their computer systems and automated data. In light of findings reported during our audit of FAS and the yearly cost of software development and maintenance, we believe our participation in the PCIE project will be useful to the agency. Our participation should also provide useful input to the PCIE software maintenance policies for all federal agencies.

This section describes the results of our reviews of grantees. These reviews disclosed deficient accounting procedures, unsupported and unreasonable costs, and inadequate management of awards.

Massachusetts Small Business Firm Claims Excessive Reimbursements

Over the last 8 years, NSF has awarded 15 grants totaling \$1.2 million to a Massachusetts firm under the Small Business Innovative Research Program. The firm performs environmental research, for example, it examines the process by which chlorine molecules combine with waste water to form a hazardous compound that is released into streams. Two of these grants were for an aggregate \$464,168. We reviewed claimed expenditures of \$387,247, and we questioned \$85,744 in costs.

The questioned costs resulted from (1) indirect cost charges that exceeded those allowed, (2) equipment charged to the grants that was neither in the original budget nor subsequently approved by the program officer, (3) amounts reported as expenditures that were not supported by documentation, and (4) reported expenditures that were not

recorded in the firm's accounting records.

We also found that the grantee was planning to charge the most recent NSF grant for renovations to a laboratory located in a leased building. These renovations were not part of the grant proposal. In addition, the firm planned to charge the renovation directly to the NSF grant while other costs associated with this renovation were amortized over the life of the lease and charged to overhead. We recommended that:

- price analyses and comparisons be made for purchases;
- written policies and procedures for accounting, purchasing property, and travel be maintained;
- progress and final reports on program results be submitted, as required;
- cash advances be maintained in an interest-bearing account;
- access controls for the computerized accounting systems be revised; and
- blank checks be adequately safeguarded.

The grantee agreed with the compliance and internal control findings, but disagreed with the questioned costs for renovations and indirect costs. The

matter is now in the audit resolution process.

Grantees Fail to Record Cost Sharing

In recent years, cost sharing has become an important criterion in the grant selection process. Because of its heightened importance, we have expanded our audit work in the area. We have found an increase in the incidence of poor documentation for cost sharing and an increase in the number of grantees who do not provide the full amount of the cost sharing promised.

We are concerned that, in some cases, grantees may be proposing to share the costs of a program simply to gain an advantage with proposal reviewers. We are also concerned that prospective grantees are submitting unusually high proposals for cost sharing to receive grant funds from NSF, but may not intend to provide the amounts proposed. Our upcoming reviews will focus on whether (1) proposed cost sharing is being formally incorporated into grant agreements, (2) cost sharing is being properly accounted for by the grantees, and (3) amounts claimed as costs shared have a firm basis and are realistic.

We reviewed three institutions where NSF awarded grants that proposed sharing the costs of

the program. Our reviews found the following deficiencies.

- In an audit of two grants totaling \$594,009 at a west coast museum, we found minimal questioned costs on the \$460,633 in claimed expenditures. However, records were not produced to support promised grantee matching costs of \$325,596 on one grant. And, although the second grant had documentation on cost sharing, 58 percent of the NSF grant funds had been drawn down while only 30 percent of the matching funds had been provided. We recommended that the grantee maintain records of matching costs and make up the shortfall for the matching expenditures. The grantee concurred and stated that it had begun to maintain appropriate records for those grants that did not have supporting records.
- NSF awarded a \$389,308 grant to a not-for-profit west coast educational partnership to help develop a model for revitalizing the teaching of science in urban schools. We questioned expenditures of \$103,778 and could not find documentation to support \$2.9 million (738 percent of the NSF grant) of cost sharing that had been promised as part of the grant proposal.

The questioned costs resulted from (1) participant support costs that were used for other purposes, (2) poorly maintained timesheets for FY 1989, (3) salaries of persons who were not directly involved in a project that were charged as direct project costs, and (4) noncompliance with competitive bidding requirements for equipment purchases. Although the audit staff was not given records that documented the cost sharing, as required by the grant agreement, the grantee stated that cost sharing by the school district and corporate donors totaled over 500 percent of the NSF funding, and personnel had volunteered to work on their own time, which increased the total to the required 738 percent. The partnership stated that, as a result of the findings in our report, it would document its contributions to the program in the future.

- In an audit of four grants totaling \$383,883 to a not-for-profit foundation, we questioned \$43,962 on claimed expenditures of \$228,168. We found that a federally required audit had not been conducted, labor distribution policies and property management procedures were inadequate, unsupported costs were claimed against NSF grants,

costs claimed were incurred before the grant's inception, and the grantee did not document the required matching expenses. We recommended that DGC resolve questioned costs and the grantee document matching expenses. The grantee generally concurred and agreed to implement the corrective actions we proposed.

AUDIT INVOLVING POSSIBLE VIOLATIONS OF LAW

When conducting audits, we sometimes observe or are advised of possible violations of law involving the use of NSF funds. In this reporting period, we completed an investigation/audit that was noted in our sixth Semiannual Report .

Grantee Employee Embezzles Funds

NSF awarded a grant to a not-for-profit organization for the support of a regional center designed to increase the number of minorities in the mathematics, science, and engineering professions. First-year funding was \$507,000, with the expectation that subsequent funding would total approximately \$4 million.

As noted on page 9 of our sixth Semiannual Report, the grantee notified us that a defalcation was found just before our contract auditors began the detailed review stage of their audit. As a result of the allegation, the audit was suspended while the investigation proceeded. The investigation and the audit have now been completed.

The audit of the grantee's claimed costs of \$118,206

resulted in questioned costs of \$66,105. The costs were questioned because (1) direct costs were claimed for which there was inadequate documentation or support, (2) direct costs were claimed that were ineligible for reimbursement, (3) indirect costs claimed exceeded the budgeted amount, and (4) interest had been earned on federal funds that had not been returned to the government. We also found that although the grantee had proposed to share the cost of the program by providing funds from other sources for program support amounting to 131 percent of the federal funding provided, only 13 percent of the federal funds claimed had been matched.

In addition, the following internal control weaknesses were found: (1) duties for cash disbursements were not segregated; (2) purchase requisitions were not consistently approved before the purchases were made; (3) documents supporting cash disbursements were not canceled to prevent duplicate payments; (4) the grantee had not prepared a manual that details the grantee's approved accounting procedures; (5) the grantee had not requested that an independent audit be conducted in accordance with the grant requirements; and (6) employees were paid for hours worked that were not supported on the employees' timesheets, and time charged to the grant

was not supported by the timesheets.

We recommended that the questioned costs be recovered from the grantee, NSF require that the grantee provide the proposed program support and keep records to document that support, controls be strengthened, and the NSF program and grant offices review the management of the center to ensure that it meets the management and control needs for such a large grant.

NSF immediately acted upon the findings in the report by assigning fiscal responsibility for the grant to a university in the region. (For information on the investigation report, see page 19.)

Summaries of Other Audit Efforts

Background Checks For NSF Employees: We reviewed the number, type, and cost of background investigations at NSF in light of recent changes in requirements and costs. The type of background investigation required for a particular employee depends on an assessment by NSF of the level of public trust that the position entails and on whether the position requires access to classified documents. The highest clearance held at NSF is Critical-Sensitive National Security, which allows access

to TOP SECRET materials. NSF has 45 positions with this designation. Critical-Sensitive clearances require an initial investigation and a detailed periodic reinvestigation or Single Scope Background Check. Our analysis suggested that NSF does not frequently handle TOP SECRET materials.

We concluded that cutbacks in background investigations are feasible and could produce savings for NSF. The amount saved will vary depending upon the type of clearance required. Initial investigation costs may be reduced as much as from \$3,150 to \$50, and reinvestigations costing \$675 could be eliminated.

Accordingly, we recommended that positions with Critical-Sensitive clearances be reduced. Unless a compelling exception can be appropriately documented, we recommended that no Directorate or staff office have more than one position designated Critical-Sensitive. Based on our recommendation, NSF began reviewing the security designations of all NSF employees with the intention of reducing the number of Critical-Sensitive positions.

Warehouse Operations: In response to a Division of Administrative Services (DAS) request, we reviewed the management and operation of the NSF warehouse to ensure that controls were in place and

effective to safeguard NSF equipment, furniture, reserve stocks, forms, and publications. The warehouse is operated by a small business under contract with NSF and the Small Business Administration.

We found that identification of items, storage practices, and controls for most items in the warehouse were adequate. The one area that needed improvement was the storage methods and inventory practices for the equipment that is expected to be declared excess. For example, we found that computer equipment was stored in laundry carts, had not been identified as to the condition or remaining useful life, and had not been counted when the warehouse inventory was conducted. We also found that implementation of the excess equipment procedures was often arbitrary because of the lack of standardized written guidelines and procedures.

As a result of our findings, DAS is developing guidelines for determining when the request for disposal should be forwarded to the General Services Administration. In addition, the warehouse is being reorganized so that excess items can be properly stacked and inventoried. These procedures are important because the value of the excess property is increasing, which makes this equipment a more likely target for theft or misuse.

Transit Subsidy Program:

In July 1992, NSF instituted a 3-month pilot program of subsidizing the fares of employees up to the GS-10 level who commute to work by Metrorail and Metrobus. This program was authorized by the Treasury, Postal Services and General Government Appropriation Act of 1991, Public Law 101-509. We reviewed the procedures and safeguards in place to ensure that farecards and bus tokens are properly distributed and that recipients meet the established criteria.

Our initial review found that the controls and procedures were still being developed. Based on our findings, we discussed further refinements to the guidelines and the requirement for full documentation with DAS and the Office of Information and Resource Management. As a result, those guidelines were revised.

The pilot subsidy program was successfully completed, and a subsequent review of the program found that controls were effective. NSF will not implement a permanent program at present because of the following factors: (1) insufficient resources, (2) uncertainty about NSF's relocation, and (3) current carpool requirements. If any of the above factors change, the issue will be revisited.

Payment to Wrong

Contractor: We reviewed NSF's actions and controls that allowed payment of \$115,691 to a firm for services that had actually been provided by another firm. NSF negotiated a contract with a California firm to provide analysis and information services for a program office in NSF. When the firm completed the contracted services, it sent NSF a bill for the services rendered. NSF then paid the contracted amount to a Virginia firm that had a name similar to the company that performed the work but was not affiliated with the California company. NSF did not know that an inappropriate payment had been made until several months later when the California firm again requested payment. NSF notified the Virginia firm that it must return the funds to NSF; however, in the interim, the Virginia firm had declared bankruptcy and could not return the funds. NSF notified the Department of Justice and the OIG that NSF could not recover the funds. The Department of Justice and NSF's General Counsel have been pursuing the legal issues in this case.

We reviewed NSF's internal controls and the systems that allowed this inappropriate payment to be made. The audit found that an inappropriate payment was made because the wrong institution code was assigned to the contract. This system requires that payments

be made by proposal numbers, not by institutions' names. In this case, the institutions' names were similar and one firm received the contract, but the funds were obligated to a different firm. The review found that although it is improbable that a similar situation would recur, institution codes and the names and addresses of firms should be verified to ensure that they match, and information that is used to authorize payments should be verified more carefully.

INVESTIGATIONS

The Investigations unit is responsible for investigating violations of criminal statutes as well as 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 prosecutors for criminal or civil prosecution or to NSF's Office of the Director to initiate administrative sanctions or penalties.

EMBEZZLEMENT OR DIVERSION OF NSF GRANT FUNDS

We place 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 violation that can be prosecuted under several statutes. We encourage universities and other grantees to notify NSF of any significant problem relating to the misuse of NSF funds. Early notification of significant problems greatly increases our ability to investigate allegations and take corrective action to protect NSF and its grantees.

Active Cases From Prior Reporting Periods	17
New Allegations	15
Total Cases	32
Cases Closed After Preliminary Assessment	6
Cases Closed After Inquiry/Investigation	8
Total Cases Closed	14
ACTIVE CASES	18

The following section describes the funds diversion cases that we investigated during this reporting period.

Diversion of NSF and A Nonprofit Society Grant Funds by A Principal Investigator

In March 1992, we were notified by a university that it had discovered that a principal investigator on NSF and a nonprofit society's grants had misused grant funds and may have submitted fraudulent travel vouchers paid with grant funds. The principal investigator, who was also the chairman of the Biology Department, received a \$177,000 grant from NSF to conduct research on nerve cells of one species and a \$105,000 grant from the nonprofit society to conduct electrophysiology research on nerve cells of other species. After we received the allegation, we immediately coordinated our investigation with the university's internal auditors.

The university's internal audit determined that between July 1988 and March 1992, the principal investigator spent over \$156,000 of NSF grant funds and \$76,000 of the society's grant funds.

We reviewed expenditures and conducted interviews, including one with the principal investigator. During that interview, the principal investigator signed a sworn statement admitting that he:

- (1) expended \$47,350 of NSF grant funds and \$21,841 of the society's grant funds, totaling \$69,191, by submitting false travel and payroll vouchers and by purchasing personal items;
- (2) expended \$108,678 in NSF grant funds and \$54,763 of the society's grant funds, totaling \$163,441, for costs unrelated to either grant; and
- (3) submitted misleading progress reports to NSF to receive second- and third-year funding for the NSF grant.

Our investigation determined that by submitting false travel and payroll vouchers and by purchasing personal items with NSF grant funds, the principal investigator had violated 18 USC § 666, *Theft or Bribery Concerning Programs Receiving Federal Funds*. We also concluded that the principal investigator had violated 18 USC § 1341, *Frauds and Swindles*, by submitting false payroll vouchers, causing the society's grant funds to be transferred from the university accounts to outside bank accounts.

We also concluded that none of the funds expended under either grant were proper. As a result of our findings, the university notified the principal investigator that he should repay all funds expended under both grants.

TABLE 2

TABLE 2	
Referrals for Criminal Prosecution Pending:	
From Previous Reporting Period	1
New Referrals	4
Prosecutorial Declinations	3
Indictments From Previous Period	0
New Indictments	0
Criminal Convictions/Pleas	1
REFERRALS PENDING	1
INVESTIGATIVE RECOVERIES	\$807,514
ADMINISTRATIVE ACTIONS	3

In June 1992, the principal investigator complied with the university's notification and repaid over \$232,000 to the university. The university then returned all of the grant funds that NSF and the society awarded.

The principal investigator was able to misuse grant funds because he was in a unique position of trust as the Biology Department's chairman. Under the university's system, the principal investigator served as the account manager, and because he was also the department chairman, he also acted as the account supervisor. As a result, he was able to submit vouchers and invoices and approve the expenditure of grant funds without being concerned about an account supervisor reviewing these expenditures. The university has taken steps to ensure that department chairpersons can no longer act as account supervisors on their own grants.

We referred the results of our investigation to the U.S. Attorney's Office for prosecution. The U.S. Attorney accepted this matter for prosecution and has begun plea negotiations with the principal investigator for violating one count of 18 USC § 666, for theft of \$47,350 NSF grant funds, and for violating one count of 18 USC § 1341, for defrauding the Society of \$21,841. The extent of the defalcation involved in this matter, and mitigating factors, including the fact that

the principal investigator fully cooperated with our investigation and returned all grant funds will be considered by a U.S. District Judge in the sentencing. The principal investigator faces a minimum penalty of 1 year imprisonment under federal sentencing guidelines.

Misuse of NSF Advanced Funds on An Educational Publication Grant

An allegation of diversion of grant funds led to a joint audit and investigation by our office. NSF awarded a grant to a small business to fund an educational publication. We found that the company had used advances from an NSF grant to pay its operating expenses at a time when other funds were not available. While we found that the company did initially use NSF funds for purposes outside the grant's scope, we also found that the company routinely reimbursed the NSF grant as soon as it generated sufficient income from its other activities. Expenses ultimately charged to the grant were legitimate, and the company did produce the educational publication described in its grant proposal.

A previous audit by our office had identified questioned costs relating to consulting fees and indirect costs, and the audit had recommended that the company pay interest on excess advanced funds. The combined audit and investigation found no evidence that the company had intended to defraud NSF. The U.S. Attorney's Office agreed with our findings and declined to prosecute. Nonetheless, we recommended that NSF recover all questioned costs relating to the consulting fees and indirect cost charges above the established maximum provisional rate. We also recommended that NSF terminate the grant because the company's continued financial problems posed a risk that funds could not be properly managed. Finally, we recommended that NSF reprimand the principal investigator, who is the president of the company, for improperly using the NSF advanced funds to pay company loans and expenses.

FOLLOW-UP ON DIVERSION CASES REPORTED IN PREVIOUS SEMI-ANNUAL REPORTS

Fraudulent Use of Grant Funds

We previously reported that on February 24, 1992, a professor of electrical engineering at a major university pleaded guilty to two counts each of false statements, mail fraud, and conspiracy to defraud the U.S. government relating to federal research grants and contracts. On the same day, three of the professor's relatives pleaded guilty to one count of conspiracy each.

The professor was subsequently sentenced to 2 years imprisonment. The court ordered the professor to: pay \$150,000 to his former university; pay \$1.6 million to the U.S. government; pay a fine and court costs totaling \$6,300; and upon release from incarceration, serve 3 years probation. On the same day, the three relatives were ordered to serve 3 years probation each.

The restitution included \$599,556 related to NSF grants (\$371,633 of diverted grant funds plus \$227,923 of interest). Based on our recommendation, NSF has filed a petition with the Department of

Justice to recover the \$599,556. Also, based on our recommendations, NSF has initiated debarment proceedings to exclude the professor from federal financial and nonfinancial assistance and benefits under nonprocurement federal programs and activities for a 5-year period. The professor's attorney has appealed to NSF for a reduction in the length of the debarment period. We oppose any reduction.

Funds Embezzled from NSF Grant for Minority Education

We previously reported that an investigation conducted by OIG and the Federal Bureau of Investigation developed evidence that a finance/marketing manager for a not-for-profit organization embezzled \$30,500 from a NSF grant for a minority education program. We also found that the subject had been convicted by the state of Ohio for embezzling money from a public school and was serving 4 years probation for that conviction when he embezzled the NSF funds.

Based on our investigation, the state of Ohio revoked the subject's probation, and federal and state warrants for his arrest were issued. The case was also referred to the U.S. Attorney's Office for prosecution. The subject was apprehended in California, and on July 24, 1992, pleaded guilty to five counts of violating

18 USC § 641, *Public Money, Property or Records*, for embezzling NSF grant funds. The subject will be sentenced on December 7, 1992.

The not-for-profit organization obtained funds from private sources to reimburse \$30,500 to the NSF project and established internal controls for the handling and disbursement of funds. The organization has also established procedures for background checks for employees, and employees are now bonded and insured.

Because of the defalcation and the poor internal controls at the organization, we initiated an audit to review the organization's overall ability to manage NSF funds. (The results of this audit are discussed on page 13.)

OTHER INVESTIGATIVE ACTIVITIES

Investigation Leads to Review of Personnel Practices

In late 1991, we received several allegations relating to the operation of NSF's Office of Legislative and Public Affairs (OLPA). It was alleged that there was undue influence in the award of an NSF contract, and that there were conflicts of interest in the appointment of experts. It was also alleged that there were improper travel practices, unnecessary expenditures, and questionable management practices in OLPA, particularly relating to the advancement of women.

We investigated these allegations. In the course of our investigation, we interviewed 57 of the 64 individuals who were full-time OLPA employees from April 1987 to April 1992. We found no wrongdoing for which sanctions were appropriate. We did find that some of OLPA's management practices deviated from established NSF administrative procedures. Many employees that we interviewed told us that a lack of effective communication between management and employees led to poor morale, high turnover, and a widespread belief that the Public Affairs Division is given less attention and fewer

resources than the Legislative Affairs Division. We also found that questionable personnel practices contributed to many of these problems.

We recommended that OLPA adhere to NSF's established procedures and develop more effective communication channels between management and employees. We also recommended that the Director of NSF determine whether it is appropriate for the Legislative Affairs Division to be given priority attention within OLPA. After the Director makes this determination, the Director of OLPA should communicate to all staff members the relative priorities within OLPA and the reasons for those priorities.

We also found that OLPA had not met the Office of Equal Opportunity (OEO) employment goals for minorities, women, and persons with disabilities over the 4-year period 1987 through 1991. According to the OEO Progress Reports for FYs 1990 and 1991, OLPA failed to hire a woman or a minority at the Senior Executive Service level and to close the grade gap between male and female employees. We recommended that OLPA take specific steps toward meeting OEO goals in the near future.

We broadened our review and compared OLPA's progress in meeting OEO employment goals to the progress of similar NSF administrative offices, including divisions in the

Office of Budget, Finance, and Award Management and the Office of Information and Resource Management. From 1987 through 1991, DAS, the Division of Financial Management (DFM), and DGC failed to hire a woman or a minority at the senior levels. We also found that, unlike OLPA, which experienced an increase in grade gaps, DAS; DGC; the Division of Human Resource Management (HRM); and the Office of Budget, Finance, and Award Management had a decrease in the same grade gaps. In DFM, the grade gap between male and female employees remained constant during the reported time period, but the grade gap was very large.

Based on this information, we recommended that OLPA, DAS, DFM, and DGC take steps to recruit a woman or minority at the senior levels. We also recommended that the Director of NSF ensure that OLPA and DFM review the grade gaps between male and female employees and determine the reasons for the discrepancy. Every effort should be made to decrease grade gaps in the future.

Finally, we reviewed the turnover rates from 1986 through 1991 in these NSF offices and divisions. We found that DAS and HRM had higher average turnover rates than OLPA. OLPA's average turnover rates, in turn, were higher than those of DFM;

DGC; and the Office of Budget, Finance, and Award Management and exceeded the NSF average for its permanent workforce. We recommended that the Director of NSF ensure that DAS, OLPA, and HRM address the high turnover in each of their offices or divisions and determine the reasons for it. Every effort should then be made to decrease turnover resulting from employee dissatisfaction and bring it more in line with NSF turnover averages.

Program Officer Violated Federal Statute and NSF Rules Relating to Conflict of Interest

We received an allegation that an NSF program officer may have personally and substantially participated in the award of a grant and amendments to the grant while negotiating for a position as an adjunct professor with a university. These acts would violate 18 USC § 208, *Acts Affecting a Personal Financial Interest*, and NSF's conflict-of-interest rules.

Our investigation determined that the allegation was true. We referred the violation to the U.S. Attorney's Office, which declined to prosecute because there was no evidence that the program officer took any action to improperly influence NSF's usual process for proposal and award administration, and because the program officer had received no financial compen-

sation from the university. We recommended that the program officer receive a personal conflict-of-interest briefing by the Agency Ethics Official and that NSF issue an appropriate reprimand to the program officer. NSF agreed with our recommendation, and an official letter of reprimand was issued.

Traveler's Checks Stolen from NSF

NSF's DAS is authorized to maintain and distribute traveler's checks to federal employees. We audited the traveler's check records and found that the balance of the traveler's check inventory exceeded the amount recorded in inventory and disbursement records by \$600. The audit also found that DAS's existing internal controls did not ensure that traveler's checks were properly safeguarded against errors, omissions, and other irregularities. We recommended that DAS strengthen its internal control system and reconcile the discrepancy in traveler's checks.

DAS agreed, strengthened the internal control system, and reconciled the discrepancy in traveler's checks. As a result, it found \$2,050 in traveler's checks that was unaccounted for. We reviewed the reconciliation and requested that DAS repeat the reconciliation using Citicorp statements and checks. DAS repeated the reconciliation and found that it

could account for all but \$550, which was traced to two sets of traveler's checks. The first set was composed of three \$100 traveler's checks negotiated in the name of an NSF employee. The second set was composed of five \$50 traveler's checks negotiated in the name of someone not employed by NSF.

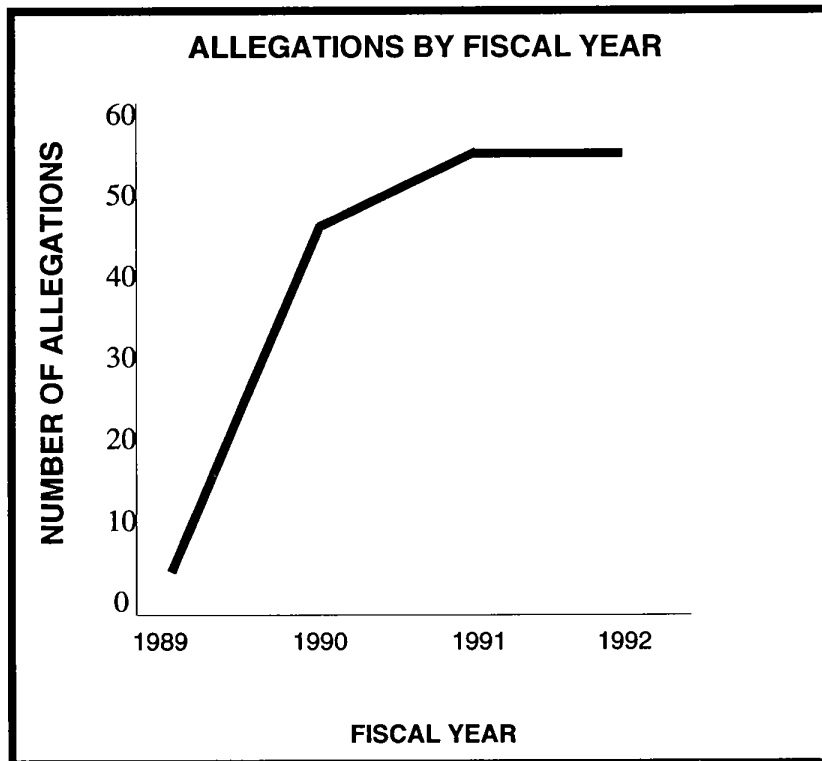
DAS requested that we conduct an investigation to determine who had cashed these checks. A joint audit and investigation was conducted; however, attempts to locate the individual who stole the traveler's checks were unsuccessful. We attributed this lack of success to the long period of time that had elapsed between the theft and its discovery and to the poor internal controls that existed when the traveler's checks were stolen. We recommended that the newly implemented DAS internal controls be monitored regularly to ensure that discrepancies discovered during reconciliation are investigated expeditiously.

OVERSIGHT ACTIVITIES

The Office of Oversight focuses on the science-engineering-education-related aspects of NSF operations and programs. The Office conducts and supervises compliance, operations, and performance audits as well as investigations of NSF's programs and operations. The Office handles all allegations of nonfinancial misconduct in science, engineering, and education and is continuing studies on specific issues related to misconduct. The Office oversees the operations and technical management of approximately 200 NSF programs, undertakes inspections, and performs special studies.

PROPOSED NEW DEFINITIONS OF MISCONDUCT IN SCIENCE

During this reporting period, two new definitions of misconduct in science have emerged. One of these new definitions was devised by the National Academy of Sciences' (NAS) Committee on Science, Engineering, and Public Policy (COSEPUP) Panel on Scientific Responsibility and the Conduct of Research and the other by the Public Health Service's (PHS) Advisory Committee on Scientific Integrity. These new definitions are important because their supporters believe they should replace the current definitions used by NSF and PHS.



NSF's definition is an example of the current federal definition. NSF defines misconduct in science and engineering as:

(1) fabrication, falsification, plagiarism, or other serious deviation from accepted practices in proposing, carrying out, or reporting results from activities funded by NSF; or

(2) 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.

This definition is comprehensive, and its application depends on the involvement of the peer community. In this definition, the “other serious deviation from accepted practices” phrase states the operational standard for ethics as historically implemented in the scholarly professions. According to this operational standard, members of the scientific community set the standards by their practices. To make the definition work, the scientific community must be involved. At NSF, this representation occurs in the investigative and the adjudicative stages of handling allegations of misconduct in science.

The NAS COSEPUP Panel report on *Responsible Science: Ensuring the Integrity of the Research Process* appeared in April 1992. The Panel’s definition limits misconduct in science to fabrication, falsification, or plagiarism in proposing, performing, or reporting research. NAS has recommended this definition to government agencies, universities, and other research institutions as a replacement for current definitions.

The differences between NSF’s and NAS’s definitions of misconduct in science arise from what is **not** captured in this new definition. The “other serious deviation from accepted practices” phrase is not included because the committee found it vague and because it

felt that “a misconduct complaint could be lodged against scientists based solely on their use of novel or unorthodox research methods.” The NAS press release said the “other serious deviation” phrase could stifle innovative research. We believe that the current NSF definition is more appropriate for three reasons. First, we do not believe that the phrase is vague; clarification is as near as the peer community. Second, as we have explained before, we find no evidence that scientists cannot distinguish innovative research from an act of misconduct in science, as the NAS report implies (see Semiannual Report No. 6, pages 17-19). Third, NSF has stated as a matter of law that ordinary differences in interpretations or judgments of data, scholarly disagreements, or personal or professional opinions “are not, and could never be misconduct” under NSF’s definition (see 56 Fed. Reg. 22287 [May 14, 1991]).

Because the recommendation of the NAS report does not include the “other serious deviation” phrase in its proposed definition, we believe the NAS definition is more limited in scope than the current NSF definition, and it fails to include known and readily hypothesized cases of misconduct. For example, the NAS’s report specifically states that tampering with other researchers’ experiments would not constitute misconduct in science. We strongly believe

that tampering with another’s experiments is a form of misconduct.

In June 1992, the PHS Advisory Committee on Scientific Integrity formulated the other definition. This Committee decided to recommend that the PHS definition of “scientific misconduct” be replaced with a definition of “research fraud”: “Research fraud is plagiarism; fabrication or intentional falsification of data, research procedures, or data analysis; or other deliberate misrepresentations in proposing, conducting, or reporting research.”

Here, the use of the terms “fraud” or “deliberate misrepresentation” is a limitation on the definition of misconduct. “Fraud” and “deliberate misrepresentation” carry the connotations of their common law origin and use. This requires, among other things, a showing of “intent to deceive” and/or “detrimental reliance,” which is beyond what plagiarism, fabrication, or falsification require under our current misconduct definition. The PHS Advisory Committee’s definition would cover only the extreme end of the spectrum of misconduct in science.

Further, the introduction of “intentional falsification” places a specific burden on an investigation to assess intent, which is a complex legal

undertaking. University faculty members do not assess intent as part of their everyday research and therefore are not familiar with this legal activity.

“Deliberate misrepresentation,” which requires proof of “deception” as well as intent, shares and exacerbates the same problem. The PHS Advisory Committee’s definition of research fraud holds the potential for making lawyers the key players for misconduct in science cases, replacing scientists and engineers. This will not be science governing itself, as was envisioned by the National Conference of Lawyers and Scientists when they recommended an informal process not dominated by lawyers for handling allegations of misconduct in science. Lawyers, along with investigators, play an essential role as part of an interdisciplinary team in our misconduct cases. However, scientists and engineers—who are familiar with the mores of science—must always lead the process.

At this point, we believe that the government should resist both new definitions because neither definition can creditably handle the range of misconduct cases encountered. Therefore, we intend to oppose these changes in NSF’s current definition of misconduct because the resulting definitions fail to fully protect the public interest.

ILLUSTRATIVE MISCONDUCT CASES

We closed two plagiarism cases in this reporting period that illustrate difficulties that universities often have in conducting thorough investigations and in addressing the issue of intent. We also closed one case involving six allegations about authorship and fraudulent representation of experimental results.

Plagiarism at An Eastern University

We received an allegation that a chemist at a private eastern university had submitted to NSF proposals containing material plagiarized from a published article. We informed the subject’s university about the allegation, without identifying the complainant, and offered the university the opportunity to investigate the allegation.

The university investigation found that the subject’s proposals contained ideas and exact phrasing from the article, but that the subject had failed to give any attribution to it. The subject admitted he had read the article and had taken extensive notes from it, subsequently incorporating material from those notes into his proposals without giving the authors the credit that was justly due them for their original idea. The investigation

found an earlier proposal to NSF in which the subject had similarly copied from the same article without attribution. It also found material in one proposal that was copied without attribution from another paper by other authors.

The subject’s defense was that the omission of a citation to the article was an oversight. He explained that when he read journal articles, it was his habit to take notes in which he often copied from the articles verbatim. These copied passages were mixed together with his own elaborations, and he often did not write in exact source references. When he wrote proposals, he used the notes and sometimes copied from them verbatim. By that time, however, he had often forgotten that he was putting into the proposal material taken from the articles, and he did not check his sources before sending the proposals to NSF.

When the university’s investigating committee asked to see the notes, it was told that the subject had destroyed them at the suggestion of his department chair when he moved into a new and smaller office. The committee apparently took his word for this, without interviewing anyone else or looking for the notes. It also did not look into inconsistencies between the subject’s defense to the committee and his earlier explanation to us.

The committee found that the subject had violated professional standards of research scholarship and was therefore guilty of unacceptable negligence and hence of research misconduct. The university treated this matter quite seriously and imposed severe sanctions. However, it did not find that the subject had committed plagiarism, which would potentially be grounds for termination under university guidelines, because it did not believe that he intended to deceive. Its reasons included: (1) the subject showed a pattern of carelessness in his research procedures, (2) some NSF reviewers detected the copying and therefore were not misled by it, and (3) the subject would not have committed plagiarism in proposals he knew were going to be reviewed by experts.

In our view, these arguments do not show any lack of intent to deceive and are not convincing. There is no inconsistency between having a pattern of carelessness and being a plagiarist. If plagiarism is detected, it is still plagiarism. Unfortunately, some scientists have been foolish enough to commit misconduct in science, even in situations where they should have expected to be caught.

More broadly, NSF does not make a separate investigation into a subject's intent in deciding whether there was plagiarism. NSF looks at the overt facts: the copying from a

certain source without giving appropriate credit. These facts usually say all that is needed about the subject's intent. To look for other evidence moves the investigation into obscure psychological issues. University committees that attempt this commonly do not show a clear idea of what sort of evidence they are looking for, and do not find it. They often produce weak arguments that suggest some doubt about the subject's intent, and on that basis, they conclude that they cannot reach a finding that the subject committed the alleged misconduct. Instead, they usually find that the subject was "negligent" or "careless" to some degree.

We decided that this was a case of plagiarism, within NSF's understanding of plagiarism, and we prepared an investigation report recommending that NSF issue such a finding. The Deputy Director of NSF has issued a finding that the subject committed plagiarism under the NSF misconduct regulations.

In addition, a settlement has been reached between NSF and the subject.

The subject accepted his institution's directive not to apply for federal grants before December 19, 1993. Under the settlement, for 4 years from the date NSF referred this matter to the institution, the subject will have all grant applications reviewed by a university official to ensure that the subject has engaged in proper research practices. On those occasions, he will certify in writing that he has recently reviewed his institution's guidelines on misconduct in science, and that his grant application is free of such misconduct. On this basis, we have closed this case.

TABLE 3: Misconduct Case Activity

	FY 1992 First Half	FY 1992 Last Half
Active Cases From Prior Period	49	60
Received During Period	23	28
Closed Out During Period	12	16
In-Process at End of Period	60	72

Major Midwestern University Finds Lack of Evidence for Plagiarism

This case has many of the same features, including, unfortunately, an investigation by the university that left certain issues unresolved. This allegation was made to the university, which in accordance with NSF regulations, informed us that it was beginning an investigation into possible misconduct. The subject was a professor who was accused of plagiarism in a proposal submitted to NSF. The professor allegedly copied material from a graduate student's dissertation and from a book chapter that the two of them had written jointly, and had not given proper credit.

The university investigation found 12 passages in the proposal that matched passages in the book chapter and dissertation. Those passages did not contain proper attribution. The university decided to consider only one of the passages, which matched a passage in the chapter. Since the chapter was coauthored, and the subject and graduate student disagreed about who was the author of this particular passage, the committee found that it could not decide whether the graduate student's work had been plagiarized. At this point it would have been reasonable to look at the passages that matched the dissertation, which was not coauthored. In our

view, the decision not to consider all of the evidence was unjustified.

The committee adopted a working definition of plagiarism that included the notion of intent. To prove that there was plagiarism, it was necessary to prove that the subject had either an intent to deceive others into believing that she was the author of the copied materials or an intent to deprive the author of due credit.

The committee found that there was no intent of either kind. One of its reasons was that the dissertation and chapter were cited in the portions of the proposal where original work and original ideas were discussed. The copying without attribution was only in the literature review section of the proposal. The subject claimed that this section was routine and contained no new ideas, implying that no citation was needed.

The committee found that the subject was not guilty of plagiarism. However, it decided that the subject had erred as a mentor in not acknowledging the graduate student's contributions and in not informing the student of how they were going to be used.

We notified the university that we thought it was a mistake to deal with only a part of the

evidence. We particularly disagreed with the opinion that plagiarism cannot occur in a literature review. We noted that the committee's discussion of intent confused the two kinds of intent and was not always convincing. However, after reviewing all of the evidence, we concluded that there was not a preponderance of relevant evidence to support a finding that the subject had copied more than a minimal amount of the graduate student's words or ideas. On this basis, we closed this case.

Allegations of Excluded Authorship and Fraudulent Research Results Investigated, But Found to be Without Merit

A major eastern research university informed us that it had completed an inquiry of alleged misconduct and intended to begin an investigation related to an NSF grant. At the university's request, we deferred the investigation to the institution. The allegation of misconduct was made by a faculty member in the Department of Computer Science against a graduate student in the same department. The alleged misconduct involved three submissions of papers without the professor's knowledge or consent and three instances of fraudulent representation of experimental results. After a 5-month

investigation, we received the university's investigation report.

As described in its report, the investigating committee evaluated each of the professor's six specific allegations and concluded that no misconduct occurred. Specifically, regarding the three papers, the committee found that (1) one submission made without consulting the complainant was unscholarly behavior, but not plagiarism; (2) the second submission was based on implied permission by the complainant; and (3) the third paper was not a basis for misconduct because it existed only on the subject's computer as an unsubmitted working draft that listed three coauthors, including the student and the professor.

Regarding experimental results, the investigating committee found that (1) contrary to the allegation that the student preselected input to an experiment in order to achieve a desired result, the professor failed to provide adequate supervision to avoid what the committee found to be poor methodology rather than misconduct; (2) instead of the student misleading the professor as alleged, there was merely misunderstanding, caused by mutual failure of the graduate student and professor to cooperate and communicate with each other; and (3) contrary to the professor's allegation, the student did not fake a graph.

Within the 30 days allotted, we notified the university that we found the university's procedures to be fair and that its final investigation report was complete and accurate. We accepted the university's investigation report, including its findings of "no academic misconduct" for each of six allegations as well as the reasons for reaching those conclusions and closed this case.

FOLLOWUP ON PREVIOUSLY REPORTED SIGNIFICANT CASE

Plagiarism in Proposal From Small Southern University

In previous reports (Semiannual Report No. 5, pages 32-33, and Semiannual Report No. 6, page 21), we discussed a case we have sent to the Deputy Director of NSF for adjudication. The subject was accused of plagiarism in a proposal to NSF. His institution had investigated the matter and had issued a finding of carelessness amounting to misconduct in science. However, the institution had decided that this carelessness was not serious enough to be plagiarism. We regarded this as an instance of plagiarism and recommended that the Deputy Director make that finding and debar the subject from

receiving all federal grant funds for 2 years.

The Deputy Director accepted our recommendation and sent the subject a Notice of Proposed Debarment. During this reporting period, this matter was resolved by a settlement between NSF and the subject. The subject agreed that his copying was plagiarism under the NSF misconduct regulation and was improper. The subject stated that this was the only instance in which he used the work of another without attribution, that he was genuinely remorseful for doing it in this case, and that he would not do it again. He agreed not to submit proposals to NSF, or be among the senior personnel on an NSF grant or cooperative agreement, for 2 years. During that period, he will notify any federal agency to which he applies for assistance that he is voluntarily excluded from NSF funding, if the agency requires such certification. With this agreement, NSF agreed to close the matter.

REVIEW OF CONFLICTS-OF-INTEREST FORM FOR ADVISORY GROUPS

One of NSF's systems for preventing conflicts of interest is Form 1230, *Conflicts-of-Interest Statement for NSF Advisory Committee/Review Panel Members*. The Form, which NSF advisors and panelists must complete before serving on an advisory group, educates NSF advisors and panelists about their conflict-of-interest responsibilities, and alerts advisory group members to possible conflict-of-interest issues that in certain circumstances need to be brought to NSF's attention and to be addressed. We reviewed NSF's use of Form 1230 in response to a request from NSF's Office of General Counsel.

We examined 76 (65 percent) of the 117 advisory groups that NSF used in FY 1991 (involving about 4,970 individuals). The groups were distributed across all 7 research and education directorates and the 40 divisions and offices that used advisory groups. We conducted this review to determine whether NSF organizational units maintained a system for requiring members of advisory groups to complete Form 1230, and whether the system is properly implemented.

We found that of the 76 groups selected for review, 64 (84 percent) used Form 1230. The remaining 12 groups (16 percent) could not be examined because the responsible NSF offices either did not use the Form (3 groups) or could not find it (9 groups).

We also found that the lists of, and Forms 1230 for, FY 1991 advisory group members in some program files were not consistent with the lists of advisory group members provided by NSF's Committee Management Officer. In addition, NSF was not able, from its computerized database, to generate lists of all advisory group members because members of one of the three advisory group categories are currently not in the database.

To ensure that all advisory group members comply with, and use, Form 1230, we recommended that :

- The NSF General Counsel or the Alternate Agency Ethics Official meet with the cognizant agency officials to determine why Form 1230 was not used or could not be located.
- Administrative changes be made to improve the operation of NSF's Form 1230 system. For example: cognizant NSF officials be required to certify that participants complete Form 1230 before meetings begin, and NSF's computerized

database be expanded so that it includes members of all types of NSF advisory groups or panels.

LEGAL ISSUES

The Counsel reports directly to the Inspector General and provides legal advice on all OIG activities, including investigations, audits, and oversight of NSF's functions and programs. Under section 4(a)(2) of the Inspector General Act, the Counsel is responsible for making recommendations in OIG's Semiannual Report to the Congress on legislation and regulations that affect NSF-financed programs.

OIG attorneys supported many of the activities that are described in other sections of this report. OIG attorneys, as part of their duties, have focused on OIG's oversight responsibilities for NSF's legal activities. In this capacity, the Counsel to the Inspector General has commented upon actions taken by the Office of General Counsel and other organizations within NSF in various legal fields, such as conflict of interest, financial, and regulatory matters. Throughout this reporting period, our legal recommendations have been generally accepted by NSF.

Financial Disclosure Policy for Principal Investigators

NSF has not yet implemented a system for identifying potential financial conflicts of interest on the part of principal investigators who apply for NSF grants. PHS attempted to develop a system in 1989, but withdrew its proposal in the face of strong public objections. NSF's Director has been working to create a system for identifying financial conflicts of interest, and he has made great strides in this area. In July, NSF published a proposed investigator financial disclosure policy that would: (1) require that awardee institutions employing more than 50 persons have, and enforce, a written conflict-of-interest policy; (2) mandate the minimum requirements of all awardee institutions' policies; and (3) require that proposals to NSF disclose the significant financial interests of the investigators. Disclosure is required when the proposed work may either lead to commercial development or be relevant to an outside venture with which the investigator has a significant financial interest, either directly or as a consultant (see 57 Fed. Reg. 31540 [July 16, 1992]).

Under NSF's proposed policy, evaluation of the scientific merits of proposals will be conducted without regard to any financial interests disclosed. Only after a decision to fund a proposal has been made will NSF consider and resolve any conflict-of-interest issues raised by the financial interests disclosed by the investigators. This proposed policy has been issued for comments. The deadline for comments is October 14, 1992.

Personnel Law Change for Excepted Service Employees

Under the National Science Foundation Act, NSF is authorized to hire technical and professional employees without adhering to the less flexible requirements of the competitive service. Because of NSF's need for personnel with scientific and technical expertise, approximately one-fourth of NSF's staff has excepted service status.

The Veterans' Preference Act of 1944 amended the Civil Service Act to provide veterans in the excepted service the same right to appeal removals or reductions in grade or pay as had previously been afforded only to competitive service employees. In 1990, Congress

further amended the Civil Service Act to extend those appeal rights to excepted service employees. In an earlier reporting period, we assessed the differences between the personnel rights of NSF employees in the competitive service and those in the excepted service, and we concluded that there was no significant difference. We have now revised that conclusion and wish to inform the Congress of this change.

The Office of Personnel Management has issued a new interpretation that severely restricts the scope of the 1990 amendment to the Civil Service Act so that many excepted service employees have no appeal rights under the Civil Service Act. Further, the Office of Personnel Management has informed us that the reasoning behind its narrow interpretation of the 1990 amendment to the Civil Service Act also excludes NSF's veterans in the excepted service from the appeal rights afforded by the Veterans' Preference Act.

NSF has advised us that it accepts the Office of Personnel Management's interpretation and does not intend to seek authority to provide appeal rights for its excepted service employees. NSF has notified its excepted service employees that they do not have appeal rights under the Civil Service Act.

We question whether the Office of Personnel Management's interpretation is consistent with Congress' intent under either the 1990 amendment to the Civil Service Act or the Veterans' Preference Act, and we questioned NSF's decision not to seek the legislative authority to provide appeal rights for its excepted service employees.

SUMMARIES OF OTHER LEGAL ISSUES

Law Enforcement in

Antarctica: In response to the recommendations described in our sixth Semiannual Report (page 25), NSF agreed to implement a plan for enforcement of the Antarctic Conservation Act. Under the plan, NSF will: (1) ensure that at least one Antarctic Conservation Act enforcement officer, who is a federal employee, is in Antarctica at all times; (2) implement centralized recordkeeping of all violations of the Antarctic Conservation Act, in accordance with the Privacy Act; and (3) modify NSF's educational materials for all visitors to Antarctica to provide information about the role of Antarctic Conservation Act enforcement officers and encourage people to report violations of the Act to them. The Antarctic Conservation Act enforcement officers will have received training at a federal law enforcement center and

will be issued official credentials. In addition, all NSF contracts and grants involving Antarctica, and the Antarctic Conservation Act permit forms, will be modified to help NSF deter violations and sustain enforcement actions. In every case of a serious violation of the Antarctic Conservation Act, NSF will consider suspension and debarment as possible sanctions for the researchers involved.

We also learned that NSF intended to implement a plan for general law enforcement in Antarctica. We advised the NSF Director that, other than enforcement of the Antarctic Conservation Act, NSF has no general criminal law enforcement authority. We therefore recommended that NSF try to negotiate an arrangement with another federal agency that already possesses law enforcement experience, personnel, services, and facilities to provide Antarctic Conservation Act enforcement officers who would also be deputized for general law enforcement in Antarctica. The Director instructed his staff to implement this recommendation.

Freedom of Information Act Decision Against PHS Could Affect NSF Misconduct

Cases: A federal district court decided that the PHS cannot, under the Freedom of Information Act, protect from public disclosure the names of individuals who have been accused and been exonerated of misconduct in science under PHS grants. If this decision is upheld on appeal, it will be binding on the Department of Health and Human Services and NSF. The decision could require that this office reveal the identities of all scientists who have been accused of misconduct in science even though those allegations were found to be without foundation.

We believe that this decision is contrary to the intent of the Freedom of Information Act. NSF issues reports on all allegations of misconduct in science and makes all of these reports available to the public with the names of the individuals removed. Revealing the names of individuals accused but exonerated of misconduct would be unfair to the individuals in the scientific community whose reputations could still be negatively affected. We also believe that the release of names of those merely accused encourages malicious allegations. We are working closely with the Department of Justice to ensure that our views are represented in the appeal of the decision.

Program Fraud Civil

Remedies Act: In our second Semiannual Report (page 24), we explained that NSF is not covered by the Program Fraud Civil Remedies Act, and we recommended that Congress amend the Act to include NSF within its jurisdiction. In our fourth Semiannual Report (page 42), we reported on a specific case that arose in which NSF was unable to use the Act. In this reporting period, we recommended that NSF begin the process of having an amendment enacted as soon as is reasonably possible. Acting on our recommendation, NSF has drafted a proposed amendment to the Act and is seeking to have the amendment made part of the Administration's legislative agenda.

Debarment Regulation:

Acting on a recommendation in our fourth Semiannual Report (page 43), NSF has adopted a regulation that enables the agency to debar contractors who fail to comply with the standards set forth in the government-wide procurement debarment regulation.

Conflict-of-Interest Manual:

NSF's Office of General Counsel issued a revised manual for directorate conflicts officials that incorporated our suggestions. As we recommended, the revised manual provides clearer guidance to the directorate conflicts officials as to the scope of their responsibilities

with concomitant instruction that they consult more readily with the Office of General Counsel's ethics attorneys.

Certifications on Grant

Forms: Acting on a recommendation described in our fourth Semiannual Report (page 42), NSF modified its grant forms to include certifications informing the signatory that providing false information or a false claim can be a violation of criminal law. The new forms have been issued. Unfortunately, one of our recommendations was omitted because of an administrative error on the part of NSF's DGC.

SIGNIFICANT AUDIT RECOMMENDATIONS FROM PREVIOUS SEMIANNUAL REPORTS

We are responsible for reporting to Congress and following up on the resolution of audit recommendations. From April 1, 1992, to September 30, 1992, we have resolved 15 reports with significant audit recommendations. These reports were in previous OIG Semi-annual Reports to Congress (Numbers 3 through 6).

Corporation Does Not Retain Documentation for Grant Expenditures

Period First Reported: April 1, 1990 - September 30, 1990

NSF awarded a \$340,088 grant to a nonprofit corporation that provides innovative learning experiences and opportunities for youth and adults. NSF conducted an intensive review of all costs claimed under the award, and we questioned \$285,095 in costs because the grantee did not have adequate documentation to support its expenditures. A settlement was negotiated, and a repayment schedule for \$17,866 was finalized.

New York Museum Claims Exceed Documented Support

Period First Reported: April 1, 1990 - September 30, 1990

NSF awarded a science museum in New York four grants totaling \$913,713. Our audit identified \$370,958 in questioned costs that resulted from : (1) costs claimed twice, (2) lack of cost sharing, (3) indirect costs claimed in excess of allowed expenditures, (4) salaries and wages that did not have after-the-fact activity reports, and (5) costs charged that lacked supporting documentation.

NSF determined that \$137,989 of the questioned costs was unallowable. NSF has accepted \$95,995 of the offsetting costs with the remainder to be repaid or offset against costs the museum incurs for the project's purposes.

Research Firm Fails to Maintain Records

Period First Reported: October 1, 1990 - March 31, 1990

NSF awarded a \$225,000 grant to a small business involved in the delivery of unique biochemicals used in neurological research. Our auditors questioned \$89,291 for all salaries, wages, and fringe benefits claimed; inadequate documentation to support expenditures for materials and supplies; and indirect costs claimed in excess of allowable expenditures.

NSF disallowed \$40,230 of the questioned costs. Of this amount, \$34,595 was recovered through offsets, and \$5,635 was collected.

A significant portion of the allowed costs was made on an equity argument by the program office.

Small Business Innovative Research Grantee Did Not Comply With Government Regulations

Period First Reported: April 1, 1991 - September 30, 1991

NSF awarded a grant for \$211,620 to a commercial company that develops, manufactures, and sells products using proprietary membrane technology. Our audit questioned \$129,611 in costs because the company did not maintain time and effort records, submit progress and final project reports, and maintain financial records in accordance with federal requirements.

Because NSF could not determine the acceptability of the claimed costs from the accounting records, its program officers determined whether the claimed costs were reasonable in light of the performance under the grant. The program officers indicated that most of the claimed costs would have been incurred in performing the functions under the grant. Through negotiations, the grantee agreed to adjust the records in sustaining questioned costs for \$12,961.

A For-Profit Organization Charged Unsupported and Excessive Costs

Period First Reported: April 1, 1991 - September 30, 1991

NSF awarded two contracts for an aggregate \$862,224 to a for-profit corporation to collect and analyze data. We questioned \$64,037 in costs because the contractor used estimated costs rather than actual expenditures and charged excessive costs for in-house reproduction, indirect costs, and fees.

NSF sustained \$126 of questioned costs and accepted the contractor's rationale and basis for allocating costs

to the contract. The fee was allowed because the contracting officer had previously approved it based on special circumstances.

Funds Embezzled from Nonprofit Organization

Period First Reported: April 1, 1991 - September 30, 1991

NSF awarded three contracts for an aggregate \$4,623,495 to a nonprofit organization to develop an international exchange program for scientists. We conducted an audit after the organization discovered that one of the employees had embezzled over \$100,000 of federal funds. We found an additional \$180,812 in embezzled funds and questioned costs.

NSF disallowed \$125,800 of the \$180,812 because the grantee was able to justify to NSF's satisfaction the allocation methods used for cost distributions. These distributions were the basis for most of the questioned costs above those embezzled.

Association Has Significant Amounts of Unsupported Claims

Period First Reported: April 1, 1991 - September 30, 1991

NSF awarded three grants to an association totaling \$272,788. These grants were for the translation and editing of mathematical theories and for travel to seminars. We questioned \$131,354 of the \$230,746 of claimed costs reviewed.

The questioned costs were for unsupported salaries and unsupported indirect costs. We also noted noncompliance with the audit requirements of the grants. NSF's program staff reviewed the final products provided under the grant. Based on the results of the review, the program staff accepted the costs incurred under the grant.

Small Business Research Program Failed to Comply with Federal Guidelines

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded three grants for an aggregate \$618,304 to a commercial company to improve orthopedic implants and prosthetic devices. We questioned \$62,005 in costs because the company did not comply with federal guidelines; charged excessive indirect costs, fees and unapproved travel; and did not have an adequate accounting system.

NSF disallowed \$43,508 of the questioned costs. Most of these disallowed costs were for costs claimed in excess of the maximum provisional indirect cost rate.

Colorado Museum Charged Unsupported and Unreasonable Costs

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded a grant for \$496,211 to a Colorado museum to support the development of a series of permanent health exhibits that address how life begins, genetics, the five senses, nutrition, fitness, stress, and living with substances. We questioned \$93,095 of the claimed costs because the museum did not maintain time and effort records in accordance with government guidelines, paid a contractor for administrative costs and site preparation that the museum had actually performed, and did not have certified public accountants conduct an audit in accordance with federal requirements.

NSF disallowed \$41,033 of the questioned costs and accepted unclaimed indirect costs instead of repayment.

Poor Management of NSF Grants

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded two grants totaling \$487,213 to a California not-for-profit foundation to support a program to improve science, mathematics, and computer science teaching to disabled and nondisabled students. We questioned \$39,894 of the \$108,106 reviewed because claimed costs exceeded the expenditures supported by records.

NSF disallowed \$27,912 of the questioned costs. Of these costs, \$17,750 was incurred by the grantee, but was not reimbursed by NSF. Instead, the costs were accounted for through the Federal Costs Transactions Report. NSF has requested a check for the additional \$10,162. The grantee also complied with the procedural recommendations in the report.

Nonprofit Fails to Support Claimed Costs

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded three small grants for an aggregate \$199,194 to a nonprofit corporation to support graduate programs for minority students. The grantee claimed \$124,194, and we questioned \$74,225. The costs were questioned because the grantee did not adequately document expenditures. The grantee also used grant funds reserved for participant costs for ineligible costs.

NSF disallowed \$15,000 of the questioned costs because no supporting documentation was provided. The remaining questioned costs were allowed because NSF accepted the grantee's explanations for costs expended.

Firm Makes Claims in Excess of Costs Incurred and Ceiling Rates

Period First Reported: October 1, 1991 - March 31, 1992

We audited an educational institution that received a \$569,640 grant to research ways of increasing the use of federal statistical information on children, youth, and families. We questioned \$28,405 in costs because the costs claimed exceeded congressionally mandated ceilings, and indirect costs were claimed in excess of actual costs.

In a negotiated settlement, NSF required that the grantee repay \$14,050. NSF also determined that certain claimed costs in the participant support category were not appropriate, and that the grantee had to make up the cost-sharing requirement during the remainder of the grant period.

Claims Reimbursement for Non-Budgeted Items

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded three grants for an aggregate \$241,570 to a not-for-profit association of engineers that provides services to approximately 70,000 members. We questioned \$4,184 because meals were inappropriately charged to the grant, some salaries and fringe benefits were not in the original budget, and questions concerning the indirect cost calculations were raised.

NSF disallowed \$356 of the questioned costs and collected an additional \$358 in interest due the government.

For-Profit Has Internal Control Deficiencies

Period First Reported: October 1, 1991 - March 31, 1992

NSF awarded a Virginia for-profit organization two grants to develop software for electric power engineering and to conduct a workshop. Claimed costs were \$113,441, and we questioned \$1,542 for salary and wage costs that exceeded allowable amounts.

NSF recovered \$3,726 from the grantee because the grantee claimed inappropriate charges after the performance period expired.

Facility Review Identifies Deficiencies

Period First Reported: October 1, 1991 - March 31, 1992

We conducted an on-site review of leased facilities under NSF's Antarctic program. We identified various issues involving inadequate use of leased space, problems with applications of foreign exchange rates and for the contract staff in Christchurch, New Zealand. All of the findings were addressed by the beginning of the current reporting period.

REPORTS WITH OUTSTANDING MANAGEMENT DECISIONS

No management decisions have been made for the following nine reports. The first seven reports have questioned costs, and the remaining two reports have compliance recommendations that have not been resolved. DGC is tasked with resolving recommendations in external audit reports. During this period, DGC resolved 45 of the 52 reports that were over 6 months old and that had questioned costs. It also resolved 3 of the 4 reports that were over 6-months old and with compliance findings that were unresolved at the beginning of the period.

The current list of outstanding reports over 6 months old has the fewest number of reports of any of our previous semiannual reports. This accomplishment is due directly to the increased efforts of DGC to resolve outstanding audit findings.

TABLE 4

Reports with questioned costs:		
Report Number	Title	Date Report Issued
91-1004	American Chemical Society	11/15/90
91-1038	Prism Productions	12/21/90
91-1100	Spaceborne, Inc.	01/26/91
91-1143	Thermalon	03/25/91
91-1197	Science Weekly	07/24/91
91-1200	Museum of Northern Arizona	08/06/91
92-1087	ZEI Engineering	03/02/92
Reports with only compliance recommendations:		
91-1292	Harvard University	09/30/91
92-1027	Brown University	01/07/92

The following four audits were issued during our fourth reporting period (October 1, 1990 - March 31, 1991).

Nonprofit Does Not Provide Documentation To Support Reimbursement Claims

NSF awarded 10 grants for an aggregate \$1,998,449 to a nonprofit science society for support of in-service training workshops, travel grants, and a young scholars' partnership program. We questioned \$227,738 in costs.

Our review found that (1) documentation was not available to determine the reasonableness of consultant's fees, (2) salaries and fringe benefits were claimed at budgeted amounts rather than actual expenditures, and (3) indirect costs were claimed in excess of actual expenditures.

The indirect cost rate is being audited by another federal agency, with the auditor still on site at the reporting period's end. Resolution will take place upon completion of the indirect cost audit.

Commercial Firm Earns Interest on NSF Funds

NSF awarded two grants totaling \$2,225,496 to a privately owned for-profit corporation that provides technical and scientific information to commercial television stations. Claimed costs were \$2,113,620, and we questioned \$410,338. We recommended that an additional \$21,175 of interest earned on NSF advances be returned to NSF.

The questioned costs resulted from salary costs not being charged to the grant, invoices supporting expenditures not being available, and indirect costs being charged at a rate higher than the actual rate or the maximum provisional rate.

NSF received an additional information package from the grantee on September 15, 1992. The information received raised additional questions concerning overlapping costs and awards. Resolution is proceeding and should be completed in the first quarter of FY 1993.

Commercial Company Inappropriately Claims Costs

NSF awarded a \$205,205 grant to a commercial company to promote scientific research. Our audit reviewed \$146,791 in claimed expenditures, and we questioned \$112,065.

We recommended that NSF terminate the grant and require that the company return \$112,065 and remit \$1,700 in interest and dividends earned on NSF funds to NSF.

NSF has been involved in extended discussions with the grantee and his representatives. Each piece of documentation requested takes an inordinate amount of time for receipt. The current delays are due to non-receipt of amended tax returns for the periods under question. We recommended that NSF terminate negotiations and issue a final judgment against the company and its owner.

Small Business Innovative Research Company Requests Advances That Exceed Current Needs

NSF provided a \$199,282 grant to a Small Business Innovative Research Company. We audited \$196,964 of this award and questioned costs of \$73,497, which included \$4,967 of interest income due the government.

We found that the grantee had drawn down advances in excess of its immediate needs, had not paid the interest due the government on these

advances, used the wrong fringe benefits rate in its billings, made mathematical errors in its billings, did not have the required audit conducted, and did not meet its obligations to secure third party funding for continuation of the program.

NSF contacted the grantee, and the grantee provided data that were insufficient to resolve the questioned costs. Follow-up discussions will be conducted with the grantee. A final decision is expected during the next reporting period.

The following three audits were issued during our fifth reporting period (April 1, 1991 - September 30, 1991).

Grantee Has Questioned Costs

NSF awarded \$489,369 to a small business for developing and publishing a science and mathematics newsletter for elementary school teachers. Our audit questioned \$115,887 of the \$220,001 in claimed costs because the grantee did not develop an indirect cost proposal and claimed indirect costs in excess of allowable amounts, charged direct and consultant salaries that were not authorized or supported by written agreements, claimed costs in excess of recorded costs, and did not remit interest to NSF.

Information has been provided by the grantee, and additional concerns have surfaced. These concerns are currently being resolved. Complete resolution is expected during the first quarter of FY 1993.

Ivy League University Fails to Comply with Conflict-of-Interest Rules

NSF awarded a \$1,671,216 grant to a major university to support the development of a pre-college program that teaches physical science by using astronomy. Claimed costs under the grant were \$1,375,240.

Our review disclosed that the university had not followed its standard procedures in awarding a contract to a company that was owned by one of the project's employees, who was also a faculty member. The university violated federal conflict-of-interest rules and other federal guidelines, by improperly awarding the contract, not preparing activity reports on a timely basis, not documenting procurements, not reporting program income, and not auditing the university's grant activities and subcontractors under the project.

The university and NSF have continued negotiations throughout this reporting period. In this reporting period, the university agreed to reform its bookkeeping practices, heighten its attention to procurement standards, and reimburse the grant for over \$4,000 in misspent funds. The university also agreed to provide an audit of the contract that was awarded in violation of conflict-of-interest rules.

In addition, the university recently advised NSF of another potential conflict of interest involving the award of a small consulting agreement to a faculty member who has a close and continuing business relationship with one of the project's employees. On the basis of this new information, and other unresolved issues concerning violations of conflict-of-interest rules, NSF requested that the university reimburse an additional \$7,356 to the grant. Final resolution of this matter is expected during the next reporting

period, when audited information is made available.

Museum Claims Exceed Actual Costs

NSF awarded six grants totaling \$386,069 to a southwestern museum for research and exhibit development. We reviewed \$267,377 of claimed costs and questioned \$50,503. Costs were questioned because claims for reimbursement exceeded the booked costs for salaries and wages, travel, materials and supplies, and other costs. We also found that cash was drawn far in excess of immediate needs, even on an advance basis, and the advances were not maintained in interest-bearing accounts. It has been difficult to get information from the museum to address the questioned costs and procedural recommendations. A letter has been sent to the museum with NSF's final determination.

The following two audits were issued during our sixth reporting period (October 1, 1991 - March 31, 1992).

Small Business Program Reviewed Resulting in Significant Questioned Costs

NSF awarded two grants for an aggregate \$277,730 to a commercial company that provides technical services in civil engineering risk analyses and reliability assessments. We questioned \$275,089 in costs because the company's accounting system did not meet government standards, the company had internal control problems, and the company had failed to comply with OMB standards.

NSF and the engineering firm are in dispute concerning the calculation of the indirect cost rates. Submissions by the firm do not agree with the figures provided in the audit report. Recent submissions are now being compared with the audit workpapers.

Resolution is expected during the next reporting period.

University Does Not Receive Required Reports

The university did not require that subcontractors provide audit and other required reports. The university is procuring the needed reports. Resolution should be final during the next reporting period.

INSPECTOR GENERAL'S DISAGREEMENT WITH SIGNIFICANT MANAGEMENT DECISIONS

The Inspector General has no disagreement with significant management decisions made during this reporting period.

AGENCY REFUSAL TO PROVIDE INFORMATION OR ASSISTANCE

During this reporting period, there were no reports made to the National Science Board of instances where information or assistance, requested under section 5(a)(5) of the Inspector General Act of 1978, as amended, was unreasonably refused or not provided.

SIGNIFICANT MANAGEMENT DECISIONS THAT WERE REVISED

No significant management decisions were revised during this reporting period.

LIST OF AUDIT REPORTS

We issued the following audit reports and, where applicable, the total dollar value of questioned costs (including a separate category for the dollar value of unsupported costs) is listed for each report.

EXTERNAL AUDIT

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
92-1159	University of Rhode Island	05/26/92	0	0
92-1160	Association of American Geographers Trustees	05/06/92	30,908	10,247
92-1161	United Engineering Trustees	05/06/92	51,656	32,578
92-1162	Foundation for Advancement in Science and Education	05/06/92	10,312	0
92-1163	Sea Run, Incorporated	05/06/92	0	0
92-1164	Humboldt State University Foundation	05/26/92	0	0
92-1165	Westinghouse Electric Corporation	05/26/92	0	0
92-1166	Brown University	05/26/92	0	0
92-1167	Westinghouse Electric Corp/Science and Technology Center	05/26/92	0	0
92-1168	University of Hawaii	05/26/92	0	0
92-1169	Carnegie Mellon University	05/26/92	0	0
92-1170	University of Maryland System	05/26/92	0	0
92-1171	University of Maryland System	05/26/92	0	0
92-1172	School Science & Math Association	05/29/92	23,307	2,472
92-1173	N.J. Business Industry Science Education	06/01/92	30,945	2,434
92-1174	Polytronix	06/24/92	72,687	386
92-1175	University of Rhode Island	07/01/92	0	0
92-1176	Assoc. of Science and Technology Ctrs.(90)	07/13/92	0	0
92-1177	Assoc. of Science and Technology Ctrs.(91)	07/13/92	0	0
92-1178	Oklahoma State University	07/13/92	0	0
92-1179	National Council of Teachers of Mathematics	07/18/92	70,215	0
92-1180	American Chemical Society	08/17/92	2,468	0
92-1181	Sea Education Association, Incorporated	07/27/92	0	0
92-1182	Computer Science Corporation	07/17/92	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
92-1183	Computer Science Corporation	07/17/92	0	0
92-1184	Aldelphi University	07/17/92	0	0
92-1185	Drexel University	07/22/92	0	0
92-1186	College of Charleston	07/22/92	0	0
92-1187	University of Mississippi	07/22/92	0	0
92-1188	Madonna University	07/23/92	0	0
92-1189	Tallahassee Community College	07/23/92	0	0
92-1190	Bradley University	07/23/92	0	0
92-1191	University of Dallas	07/23/92	0	0
92-1192	Carnegie Mellon University & Software Engineering Institute	07/24/92	0	0
92-1193	State of South Carolina	07/24/92	0	0
92-1194	Oberlin College	08/07/92	0	0
92-1195	Carnegie Mellon University & Software Engineering Institute	08/07/92	0	0
92-1196	State of South Dakota	08/07/92	0	0
92-1197	State of Louisiana	08/07/92	0	0
92-1198	University of the Sacred Heart	08/07/92	0	0
92-1199	University of Rhode Island	08/07/92	0	0
92-1200	University of Hawaii	08/07/92	0	0
92-1201	Sonoma State University Academic Foundation	08/07/92	0	0
92-1202	Chesapeake Research Consortium	08/07/92	0	0
92-1203	Chadron State College	08/07/92	0	0
92-1204	Computer Science Corporation	08/13/92	0	0
92-1205	Computer Science Corporation	08/13/92	0	0
92-1206	Computer Science Corporation	08/13/92	0	0
92-1207	Computer Science Corporation	08/13/92	0	0
92-1208	Computer Science Corporation	08/13/92	0	0
92-1209	Computer Science Corporation	08/13/92	0	0
92-1210	Wayne State College	08/13/92	0	0
92-1211	University of California - Los Angeles	08/13/92	0	0
92-1212	Rollins College	08/13/92	0	0
92-1213	Johns Hopkins University	08/13/92	0	0
92-1214	University of California - San Diego	08/13/92	0	0
92-1215	Concordia Lutheran College	08/13/92	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
92-1216	Concordia College	08/13/92	0	0
92-1217	New Mexico State University	08/13/92	0	0
92-1218	Sabbagh Associates	08/13/92	0	0
92-1219	University of California- Berkeley	08/13/92	0	0
92-1220	University of California - Santa Cruz	08/13/92	0	0
92-1221	State of Colorado	08/13/92	0	0
92-1222	Apa Optics, Incorporated	08/13/92	0	0
92-1223	Gonzaga University ('90)	08/13/92	0	0
92-1224	Gonzaga University ('89)	08/13/92	0	0
92-1225	Houston Community College System	08/13/92	0	0
92-1226	Furman University	08/13/92	0	0
92-1227	Southern College of Technology	08/13/92	0	0
92-1228	Computer Science Corporation	08/18/92	0	0
92-1229	Computer Science Corporation	08/18/92	0	0
92-1230	University of Puget Sound	08/18/92	0	0
92-1231	Los Angeles Educational Partnership	09/11/92	103,778	0
92-1232	Archbold Biological Systems	09/11/92	73,178	33,325
92-1233	Northeast Radio Observatory Corporation	09/11/92	0	0
92-1234	Santa Barbara Museum of Natural History	09/11/92	451	0
92-1235	Cytonix Corporation	09/11/92	28,523	273
92-1236	University of Alaska	09/11/92	172,796	0
92-1237	Albion College	09/11/92	0	0
92-1238	Institute for Support of Educational Excellence	09/14/92	0	0
92-1239	National Science Teachers Association	09/14/92	0	0
92-1240	Carnegie Institute of Washington	09/14/92	0	0
92-1241	The Audubon Institute, Inc.	09/14/92	0	0
92-1242	National Gardening Association	09/15/92	0	0
92-1243	Biological Sciences Curriculum Study, Inc ('90)	09/19/92	0	0
92-1244	Biological Sciences Curriculum Study, Inc ('91)	09/19/92	0	0
92-1245	American Meteorological Society	09/18/92	0	0
92-1246	EEG Systems Lab	09/16/92	0	0
92-1247	Henderson State University	09/16/92	0	0
92-1248	Ball State University	09/16/92	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
92-1249	Bend Research	09/16/92	0	0
92-1250	Illinois State University	09/16/92	0	0
92-1251	University Corporation for Atmospheric Research	09/18/92	0	0
92-1252	University of Southern California	09/28/92	4,258	0
92-1253	University of Pennsylvania	09/28/92	61,854	98
92-1254	University of Colorado - Boulder	09/21/92	13,056	0
92-1255	University of Illinois - Urbana	09/28/92	2,114	0
92-1256	Princeton University	09/25/92	0	0
92-1257	University of Texas - Austin	09/28/92	3,742	0
92-1258	University of California - Los Angeles	09/28/92	1,525	0
92-1259	Massachusetts Institute of Technology	09/28/92	25,834	855
92-1260	NORC National Opinion Research Center	09/19/92	0	0
92-1261	National Association of Biology Teachers	09/19/92	0	0
92-1262	Point Reyes Bird Observatory	09/19/92	0	0
92-1263	Institute of Human Origins	09/19/92	280	0
92-1264	California State University-San Luis Obispo	09/19/92	0	0
92-1265	New York Botanical Garden	09/19/92	0	0
92-1266	American Statistical Association	09/19/92	0	0
92-1267	Education Commission of the States	09/19/92	0	0
92-1268	Impression 5 Science Museum	09/19/92	0	0
92-1269	Rancho Santa Ana Botanic Garden ('91)	09/19/92	0	0
92-1270	Rancho Santa Ana Botanic Garden ('90)	09/19/92	0	0
92-1271	American Geological Institute	09/21/92	0	0
92-1272	Children's Television Workshop	09/21/92	0	0
92-1273	The Children's Museum - Boston	09/21/92	0	0
92-1274	Social Science Education Consortium ('91)	09/21/92	0	0
92-1275	Joint Oceanographic Institutions, Inc.	09/21/92	0	0
92-1276	Astrophysical Research Consortium	09/23/92	0	0
92-1277	Texas A&M Research Foundation	09/23/92	54,156	0
92-1278	Overseas Drilling Limited	09/23/92	0	0
92-1279	Geological Society of America	09/23/92	14,139	0
92-1280	Jostens Learning Corporation	09/24/92	1,168,364	25,206
92-1281	Kentucky State University	09/28/92	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value Questioned Costs	Unsupported Costs
92-1282	University of Kansas Center for Research	09/28/92	0	0
92-1283	Tulane University	09/28/92	0	0
92-1284	Westinghouse Electric Corporation	09/28/92	0	0
92-1285	Murray State University	09/28/92	0	0
92-1286	Mathematica Policy Research	09/28/92	0	0
92-1287	Creighton University	09/28/92	0	0
92-1288	Western Illinois University	09/28/92	0	0
92-1289	Mississippi State University	09/28/92	0	0
92-1290	Applied Research Associates	09/28/92	0	0
92-1291	State of North Carolina	09/28/92	0	0
92-1292	Southwest Missouri State University	09/28/92	0	0
92-1293	California Public Health Foundation	09/28/92	0	0
92-1294	State of Delaware	09/28/92	0	0
92-1295	State of Maryland	09/28/92	0	0
92-1296	Research Foundation of SUNY ('90)	09/28/92	0	0
92-1297	Research Foundation of SUNY ('91)	09/28/92	0	0
92-1298	Ottawa University	09/28/92	0	0
92-1299	Indiana State University	09/28/92	0	0
92-1300	Clarkson University	09/28/92	0	0
92-1301	Ohio State University Research Foundation	09/28/92	0	0
92-1302	Gulf Coast Research Laboratories	09/28/92	0	0
92-1303	Joint Oceanographic Institutions	09/30/92	342,331	0
92-1304	Paths/Prism ('91)	09/30/92	0	0
92-1305	Paths/Prism ('92)	09/30/92	0	0
92-1306	University Corporation for Atmospheric Research (\$8,013,890 in questioned costs)*	09/30/92	0	0
92-1307	Cape Cod Research, Inc	09/30/92	85,744	369

* Questioned Costs on Indirect Cost proposal for future year.

INTERNAL AUDIT

Audit Report Number	Title	Date Report Issued	Dollar Value Questioned Costs	Unsupported Costs
92-2105	Review of NSF's Federal Employment Compensation Act Program	05/14/92	0	0
92-2106	International Phase of Ocean Drilling Trust Fund Reports for Fiscal Year Ending September 30, 1991	05/19/92	0	0
92-2107	Ocean Drilling Program Trust Fund Reports for Fiscal Year Ending September 30, 1991	05/19/92	0	0
92-2108	Management Letter for NSF's Donations Account	08/06/92	0	0
92-2109	Background Checks for NSF Employees	08/11/92	0	0
92-2110	Review of the Expenditure Transaction Processing Within the NSF FAS	08/21/92	0	0
92-2111	Review of the NSF Transportation Subsidy Program	09/21/92	0	0
92-2112	FFRDC Renewal Process	09/30/92	0	0
92-2113	NSF Warehouse Operations	09/30/92	0	0
92-2114	Wrongful Payment	09/30/92	0	0

OVERSIGHT

Audit Report Number	Title	Date Report Issued	Dollar Value Questioned Costs	Dollar Value Unsupported Costs
92-3208	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, March 1992	09/30/92	0	0
92-3209	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, March 1992	09/30/92	0	0
92-3210	Conflicts-of-Interests Reviews: Volunteers Entering and Leaving, March 1992	09/30/92	0	0
92-3211	Committee of Visitors: Status of Reviews: 2nd Quarter FY 92	05/29/92	0	0
92-3212	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, April 1992	09/30/92	0	0
92-3213	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, April 1992	09/30/92	0	0
92-3214	Conflicts-of-Interests Reviews: Volunteers Entering and Leaving, April 1992	09/30/92	0	0
92-3215	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, May 1992	09/30/92	0	0
92-3216	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, May 1992	09/30/92	0	0
92-3217	Conflicts-of-Interests Reviews: Volunteers Entering and Leaving, May 1992	09/30/92	0	0
92-3218	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, June 1992	09/30/92	0	0
92-3219	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, June through July 1992	09/30/92	0	0
92-3220	Conflicts-of-Interests Reviews: Volunteers Entering and Leaving, June 1992	09/30/92	0	0
92-3221	Committee of Visitors: Status of Reviews: 3rd Quarter FY 92	07/28/92	0	0
92-3222	Compliance Review: Proposal Actions 2nd and 3rd Quarters FY 92: Directorate for Education and Human Resources	07/27/92	0	0

Audit Report Number	Title	Date Report Issued	Questioned Costs	Dollar Value Unsupported Costs
92-3223	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, July 1992	09/30/92	0	0
92-3224	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, July through August 1992	09/30/92	0	0
92-3225	Conflicts-of-Interests Reviews: Volunteers Entering and Leaving, July 1992	09/30/92	0	0

STATISTICAL TABLE OF INSPECTOR GENERAL

ISSUED REPORTS WITH QUESTIONED COSTS

The Inspector General Act Amendments of 1988 require that statistical information be presented on the number and the dollar value of recommended questioned costs and efficiencies contained in the reports issued during the period. The following tables provide the required statistical information.

	Number	Dollar Value Questioned Costs	Dollar Value Unsupported Costs
A. For which no management decision has been made by the commencement of the reporting period	52	5,223,404	960,167
B. Which were issued during the reporting period	26	2,448,621	108,243
C. Adjustments to questioned costs resulting from resolution activities	2	65,740	—
Subtotal (A + B + C)	80	7,737,765	1,068,410
D. For which a management decision was made during the reporting period	50	4,109,059	871,187
(i) dollar value of disallowed costs		934,802	N/A
(ii) dollar value of costs not disallowed		3,174,257	N/A
E. For which no management decision has been made by the end of the reporting period	30	3,628,706	197,223
Report for which no management decision was made within six months of issuance	7	1,265,117	121,558

INSPECTOR GENERAL REPORTS

With Recommendations That Funds Be Put To Better Use

	Number	Dollar Value
A. For which no management decision has been made by the commencement of the reporting period	-	-
B. Which were issued during the reporting period	-	0
Subtotals (A + B)	-	0
C. For which a management decision was made during the reporting period	-	0
(i) dollar value of recommendation that was agreed to by management	-	0
-- based on proposed management action	-	-
-- based on proposed legislative action	-	-
(ii) dollar value of recommendation that was not agreed to by management	-	-
D. For which no management decision has been made by the end of the reporting period	-	-
Reports for which no management decision was made within six months of issuance	-	-



GLOSSARY

Questioned Cost

A cost the OIG has questioned because of an alleged violation of law, regulations, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds; such cost is not supported by adequate documentation; or the expenditure of funds for the intended purpose is unnecessary or unreasonable.

Unsupported Cost

A cost the OIG has questioned because of a lack of adequate documentation at the time of the audit.

Disallowed Cost

A questioned cost that management, in a management decision, has sustained or agreed should not be charged to the government.

Funds to be Put to Better Use

Funds the OIG has identified in an audit recommendation that could be used more efficiently by reducing outlays, deobligating program or operational funds, avoiding unnecessary expenditures, or taking other efficiency measures.

Management Decision

Management's evaluation of audit findings and recommendations and issuance of a final decision concerning management's response to such findings and recommendations.

Final Action

The completion of all management actions—that are described in a management decision—with respect to audit findings and recommendations. If management concluded no actions were necessary, final action occurs when a management decision is issued.

Misconduct

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.

If you want to report or discuss confidentially any instance of fraud, waste, abuse, mismanagement, or misconduct in science, please contact the Office of Inspector General.

CALL

Audit
(202) 357-7813

Investigations
(202) 357-7833

Oversight Activities
(including misconduct in science)
(202) 357-9458

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(202) 357-9457

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SEMIANNUAL REPORT TO CONGRESS