

**OFFICE OF
INSPECTOR GENERAL**

**SEMIANNUAL REPORT
TO
THE CONGRESS**

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National Science Foundation

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**TO THE NATIONAL SCIENCE BOARD
AND THE CONGRESS**

This report describes our activities for the second half of fiscal year 1990. Section 5 of the Inspector General Act of 1978, as amended, requires that the National Science Board transmit this report to the appropriate congressional committees within 30 days of its receipt, along with any comments the Board may wish to make.

During this reporting period, our auditors evaluated the financial administration of small companies funded under one of the Foundation's programs designed to increase commercial application of NSF-supported research. We also continued to provide leadership in the federal effort to evaluate and respond to allegations of misconduct in science and engineering.

We appreciate the support provided to our office by the Foundation's management and the National Science Board. In particular, we would like to acknowledge the assistance and encouragement provided by the Foundation's Acting Director. We look forward to contributing to the Foundation's mission to advance research, education, and related activities in science and engineering.



Linda G. Sundro
Inspector General

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EXECUTIVE SUMMARY

This report covers the 6-month reporting period from April 1, 1990, through September 30, 1990. It provides an account of the major work of the Office of Inspector General by describing significant problems and deficiencies we identified during our audits, investigations, and reviews as well as the recommendations we made for corrective action. We also describe the Foundation's responses to our findings and acknowledge management's contribution to our mission.

We audited 17 companies funded under phase II of the Foundation's Small Business Innovation Research program. In addition to supporting high quality research, the program's objectives include (1) stimulating technological innovation in the private sector, (2) increasing the commercial application of NSF-supported research, and (3) improving the return on federal investment in research. The funding mechanisms for the three separate phases of this program are: federal funding by fixed-price grant award, federal funding by cost-reimbursable grant award, and private sector funding. In recent years, the agency has allocated approximately \$20 million per year to this program.

We found significant correlations in our audit findings. Specifically, we found that some of the agency's grant standard requirements in the cost-reimbursable grant funding phase were confusing to for-profit companies, that grant recipients did not understand important differences in the three funding mechanisms,

and that internal control deficiencies played an important role in generating questioned costs. (See pages 9-11.)

We have recommended that a scientist be debarred under the Foundation's regulations governing misconduct in science. This is the first time sanctions under these regulations have been initiated. This individual was funded under a program designed to provide a positive experience for undergraduates interested in pursuing research careers. We determined that the researcher had been involved in a pattern of sexual misfeasance with graduate and undergraduate students which had distorted the research environment. The Foundation has accepted our findings, pending a formal response from the researcher, and proposed debarment for a 5-year period. (See pages 26 and 27.)

We conducted a review of the Foundation's practice of paying honoraria to scientists and other advisors who provide advice on grant proposals and other agency decisions. We estimated that the Foundation paid about \$858,000 in honoraria in fiscal year 1989. Senior management used information generated by our study to review honoraria payment practices and to assess whether existing policies and practices should be modified. (See page 18.)

We continue to provide leadership and support for the government-wide effort to develop standards and procedures for evaluating allegations of misconduct in research. Our work

included developing two advisory communications that explained procedures for processing allegations of research misconduct. We also believe that NSF should take appropriate steps to ensure the integrity of grants awarded in support of education as well as research. Accordingly, we have recommended and NSF's Director has agreed that the Foundation's regulations on misconduct should be amended to proscribe misconduct connected with any type of NSF grant, whether related to research or education. (See pages 25 and 26.)

Resources and work environment continue to be matters of concern for both OIG and the

Foundation as a whole. The deterioration of the building in which most Foundation employees are housed as well as its insufficient size are issues that need to be resolved if the Foundation and OIG can be expected to meet program and funding commitments. (See pages 2 and 3.)

Our accomplishments have been made possible by the continued support of NSF management and the National Science Board. We are dedicated to helping NSF achieve its missions and will continue to do our part to help achieve the highest levels of integrity and efficiency in the Foundation's programs and operations.

REPORTING REQUIREMENTS

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.

REQUIREMENT	PAGE
Section 4(a)(2) Review of Legislation and Regulations	32
Section 5(a)(1) Significant Problems, Abuses, and Deficiencies	Throughout
Section 5(a)(2) Recommendations With Respect to Significant Problems, Abuses, and Deficiencies	Throughout
Section 5(a)(3) Prior Significant Recommendations on Which Corrective Action Has Not Been Completed	37
Section 5(a)(4) Matters Referred to Prosecutive Authorities	20
Section 5(a)(5) Summary of Instances Where Information Was Refused	42
Section 5(a)(6) List of Audit Reports	43
Section 5(a)(7) Summary of Each Particularly Significant Report	Throughout
Section 5(a)(8) Statistical Table Showing Number of Reports and Dollar Value of Questioned Costs	51
Section 5(a)(9) Statistical Table Showing Number of Reports and Dollar Value of Recommendations That Funds Be Put To Better Use	43
Section 5(a)(10) Summary of Each Audit Issued Before This Reporting Period for Which No Management Decision Was Made by End of the Reporting Period	39
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building is not adequate to house all the agency's staff and provide reasonable room for growth. Management of the Foundation's staff and programs is most effective if employees are housed together. The Foundation's staff is now spread among three buildings in downtown Washington, D.C. Scientific and support staff belonging to the same divisions are housed in different locations. Presently, OIG staff are housed together, but space allocated to us by the agency is not sufficient for even the modest growth planned over the next 3 years.

A facilities assessment, undertaken by architectural and engineering firms under

contract to NSF in 1988, uncovered major systemic problems in the 1800 G Street building. Over the last 2 years, the agency has been working with the General Services Administration with the goal of relocating in 1993. Unfortunately, budget constraints make relocation uncertain. Since a major portion of the Foundation's staff will likely remain in the present building for several more years, problems identified in the 1988 assessment must be addressed. Facilities must be improved, both for OIG and the Foundation as a whole, if we are expected to continue to manage our programs and operations effectively.

We are pleased to report that our mission continues to be well received by the agency's personnel, funded organizations, and the nation's leaders in science and engineering. Scientists and attorneys employed by OIG are among those working with the President's Science Advisor and his staff to establish uniform standards for evaluating allegations of misconduct in science and engineering.

We have been asked by the Foundation's Director and the Chairman of the National

Science Board to participate with other components of the agency in several studies on such topics as internal data integrity, ethics, and conflicts of interest. We are gratified that during our short tenure, our views on these and other matters have been solicited and taken into account. We look forward to the opportunity to serve the Foundation, and be a part of the Administration's effort to strengthen the nation's performance in research and education in science and engineering.

Building Safety and Renovations

Our ability to develop audit, investigation, and evaluation capabilities is directly affected by our work environment. Most of the Foundation has been housed in its current building at 1800 G Street, N.W. since 1965. The building is 25 years old and is deficient in many respects. It was designed and constructed according to prevailing standards, but would not meet current building codes and standards if under construction today. Renovations to improve conditions require upgrading basic systems to current standards at substantial cost.

Many of the building's fire and life safety systems do not meet current standards. The building does not have a complete automatic sprinkler system; fire and smoke detection systems are not adequate by today's standards; ventilation, heating, and cooling systems are outdated. In addition, the building's structure and design cannot handle equipment used in

today's high technology offices. For example, the building's design impedes the cabling necessary to support the growing number of personal computers and data processing terminals.

Elevators providing service to the 12-story building are so inadequate that access to upper floors is routinely delayed. It is not uncommon for work to be disrupted because passengers are trapped in elevator cars between floors. In the last 2 years, 12 Foundation employees have filed notices of injury due to incidents directly associated with riding the elevators. Elevator safety was so deficient during this reporting period that the District of Columbia's Elevator Inspector shut down half of the building's elevator cars until essential repairs were made.

In addition to these deficiencies, available square footage in the existing headquarters

OVERVIEW

Introduction

The National Science Foundation (NSF) was established by the National Science Foundation Act of 1950 as an independent agency to promote and advance scientific progress. The Foundation's principal mission is to help meet the long-term needs of the country by maintaining the health of the scientific and engineering enterprise. The support of scientific and engineering research and the training and education of future scientists and engineers are two ways that NSF accomplishes this mission.

The Foundation's Office of Inspector General (OIG) was established by the Inspector General Act Amendments of 1988. The Inspector General (IG) reports to the National Science Board, the policymaking body of the agency.

Availability of resources has been the most important factor in our efforts to implement our mission and to respond to the diverse needs of the agency. The composition of Offices of Inspector General throughout the federal government reflects the missions of their individual agencies, and NSF is no exception.

We are grappling with complex problems surrounding the application of indirect cost rates and the proper interpretation of Office of

Management and Budget circulars and General Accounting Office audit guidelines for grantees. We are also analyzing the efficacy of automated information and computer services and complicated financial systems serving the agency. In addition, to be effective, the Foundation's OIG must employ scientists able to grasp the implications of proposed policy initiatives, respond to allegations of misconduct in projects funded by the agency, and monitor the administration of scientific programs. These endeavors require equipment and highly trained staff.

We can make a tremendous contribution in all of these areas if the Congress maintains its commitment to us by providing adequate funding. The record shows that investment in Offices of Inspector General yields benefits both in actual dollars saved and program and management improvements. As a young and relatively small office, we are particularly sensitive to budget cuts. Our modest budget increase in the coming fiscal year reflects not only expansion to meet requirements imposed by the IG Act Amendments, but the absorption of some personnel costs previously paid by the agency.

EXTERNAL AUDIT

Introduction

The Office of External Audit is responsible for audits of grants, contracts, and cooperative agreements funded by NSF's programs and operations. The office conducts financial audits that include a review of accounting records and other financial information for assisting NSF management in determining if amounts claimed or billed for direct and indirect costs are reasonable and allowable, and if the grantee or contractor has complied with laws and regulations under which funding was provided. These reviews are conducted at universities, commercial firms, and nonprofit organizations.

Audits are conducted by independent public accountants, state and federal agencies, and NSF's OIG staff. Reviews of NSF grants and contracts at most educational institutions are performed by public accountants or state auditors under the oversight of the Department of Health and Human Services' OIG. NSF's

OIG staff, public accountants under contract directly with OIG, and the Defense Contract Audit Agency conduct audits in the nonprofit and commercial areas. All audit reports processed by the OIG are referred to NSF management for action or information. The Office of External Audit is also responsible for providing advice and assistance to NSF's Division of Grants and Contracts (DGC) in its resolution of the recommendations resulting from the audits.

In addition to the assistance provided for activities directly related to audits, External Audit also provides assistance to NSF by acting as a liaison between NSF and audit groups from the private sector and other federal agencies, arranging for special reviews, obtaining information, and providing technical advice.

Recent Progress

During this reporting period, the Office of External Audit concentrated on increasing the production of audit reports by its own staff. These efforts required refining the audit guide used by in-house personnel, setting standards for the preparation of audit workpapers, and establishing procedures and routines to ensure effective interaction with the auditees before, during, and after the audits. This work continued the transition from contracting for most audits to conducting audits directly by OIG staff.

The staff has been successful in adapting to the OIG's changing needs and achieving its goals. These goals include:

- increasing the number of organizations directly audited;
- improving the coverage, audit cycle, and scope of audit;
- providing audit results in a more timely manner;
- conducting audits at a lower cost per audit;
- ensuring that audit recommendations are understood by NSF grant managers, program managers, and auditees; and
- ensuring that audit recommendations are effectively implemented.

During this period, we also revised the audit guide for independent public accounting firm auditors. The guide was issued in September and has an October 1990 effective date for use by the newly selected contractor auditors. To select new contractor auditors, the OIG conducted and completed an extensive review of proposals for independent public accounting services. As a result of the reviews, contracts were negotiated with seven independent public accounting firms for audit services for the next 3 to 5 years. Continuing the use of independent public accountants, along with increasing our direct hire staff, is essential in our attempts to address an expanding audit workload and to establish an adequate audit cycle.

OIG and NSF negotiated and implemented a memorandum of understanding (MOU) that established guidelines for coordinating the resolution of audit findings and recommendations. The MOU defined the responsibilities of each entity in the audit and resolution process and documented the working relationship between the two offices. Both offices agreed that significant audit recommendations will not be resolved without consulting OIG.

The need for this MOU became apparent during NSF's resolution of a particularly significant audit report. Although discussions were held between DGC and OIG during the resolution negotiation process, OIG did not have the

opportunity to review the actual settlement document until after it had been signed by both the agency and the grantee. This settlement was finalized even though we had requested an opportunity to review the actual agreement prior to signature. Adherence to this MOU should prevent similar occurrences in the future.

Other initiatives and activities during this semiannual period included:

- improving communication between OIG and DGC to better identify procedural recommendations that need to be followed up,
- improving the relationship between OIG and DGC on our jointly managed audit report tracking system,

- identifying and initiating an electronic time management system,
- improving quality control reviews of workpapers,
- increasing the quantity and quality of discussions with independent public accountants on the audit findings in their reports, and
- hiring an additional auditor.

In this reporting period, we processed 135 audit reports. Cognizant audit agencies conducted 89 of these audits. OIG staff conducted 18 audits and public accountants under contract to OIG conducted the remaining 28. The table shows the total number of reports issued by OIG staff, public accountants, and cognizant auditors for current and prior semiannual periods.

<u>Reporting Period</u>	<u>Cognizant Auditors</u>	<u>Public Auditors</u>	<u>OIG Auditors</u>	<u>Total Reports</u>
Office of Inspector General				
04-01-90 to 09-30-90	89	28	18	135
10-01-89 to 03-31-90	144	42	6	192
04-01-89 to 09-30-89	87	28	1	116
Office of Audit and Oversight*				
10-01-88 to 03-31-89	78	27	2	107
04-01-88 to 09-30-88	67	13	0	80
10-01-87 to 03-31-88	69	16	3	88
04-01-87 to 09-30-87	70	18	0	88
10-01-86 to 03-31-87	66	16	0	82
*Prior to the February 10, 1989, establishment of the Office of Inspector General, these reports were processed by the Foundation's Office of Audit and Oversight.				

OIG staff completed more financial audits at a lower cost and within a shorter time period than those done by other federal audit organizations or by independent public accountants under contract with us. When the results of OIG audits are compared to the audits provided to us by other federal agencies (primarily those under Office of Management and Budget (OMB) Circulars A-110 and A-128), our audits and those produced by independent public accountants directly under contract to the OIG are much more effective. Only 2 of the 89 audits provided by other cognizant agencies had questioned costs. One of those reports was an A-110 report, which questioned \$2,770. The other was a Defense Contract Audit Agency report that we requested and coordinated. Our coordination included defining the scope of the review and identifying the specific areas of concern. In addition, other federal cognizant

audit staffs provided 55 fewer reports than they provided in the previous reporting period. The production and receipt of these reports cannot be controlled by OIG.

OIG direct and OIG contract audits produced more questioned costs, and we believe that the management and programmatic findings and recommendations generated by in-house auditors are more significant and useful to grantees and NSF program managers than those found in reports from other sources. We also provide information to the auditee and NSF on improving program management and documenting expenditures during the project, while other federal audit entities only provide documentation of the grantee's mistakes at the project's end.

Significant Audit Work

This section briefly describes significant audits conducted by External Audit or contract auditors during this reporting period.

Small Business Innovation Research Programs

Under the Small Business Innovation Development Act of 1982 (P.L. 97-219 and P.L. 99-443), federal agencies solicit research proposals from small science- and technology-based firms with 500 or fewer employees. In addition to supporting high quality research, the objectives of the Small Business Innovation Research (SBIR) program include stimulating technological innovation in the private sector, increasing the commercial application of NSF-supported research, and improving the return on the federal investment in research. The SBIR program supports research on advanced concepts in scientific or engineering areas, particularly when the research may serve as a base for technological innovation. The assistance provided under the SBIR program facilitates exploration of the most advanced high-risk concepts, which may lead to the next generation of products and processes.

The SBIR program is composed of three phases. The first phase is a fixed-price grant, the second is a cost-reimbursable phase, and the third is the

production phase. The program's first and second phases are funded by NSF and the third phase is funded by private sources.

Phase I involves conducting feasibility-related experimental or theoretical research on the proposed innovative idea or approach. This phase is funded through a fixed-price grant for an amount not to exceed \$50,000 and the work should be carried out over a 6-month period.

Phase II represents the principal research effort and is designed to provide awards to companies with projects that appear most promising as a result of phase I activities. Only those firms that have received a phase I grant are eligible to submit proposals and receive funding under the phase II program. About one-third of phase I projects are awarded funding under the second phase of the SBIR program. The funding for this phase is not to exceed \$250,000 over a 24-month period, calculated on a cost-reimbursable basis.

Phase III is the development effort and it is designed to move the ideas from research to commercial application. This phase is funded from private sources.

In recent years, NSF allocated about \$20 million per year to the SBIR program and has funded between 150 and 175 phase I proposals and about 50 phase II proposals per year.

OIG and its predecessor office have undertaken audits of this program on a piecemeal basis during the last 3 years. As a result of findings in those prior audits, some of which were reported in previous OIG semiannual reports, the Foundation's Director requested that OIG concentrate audit efforts on the SBIR program.

We conducted individual audits at 17 grantees under the SBIR program. Our reviews concentrated on the second phase of the SBIR program because phase II grants are cost-reimbursable and because the potential commercial application is evaluated in this stage. We found significant correlations in our audit findings. We found that (1) some of NSF's standard grant requirements were confusing to for-profit, non-federal managers; (2) there were common misunderstandings concerning government-wide requirements for grants; and (3) auditees were confused about the differences between grants under phases I and II.

We found that grantees consistently disregarded their obligation to have at least a biennial audit conducted by an independent auditor as required by NSF's grant standard provisions. A likely explanation for this deficiency is that the grant standard provisions referenced the audit requirement in OMB Circular A-110. We believe one reason grantees disregard the audit requirement is that A-110's title indicates it applies to nonprofit organizations. Because

none of the SBIR program recipients is a nonprofit organization, they believe this part of the grant standard provisions does not apply to them. Our findings generated considerable discussion and interaction between OIG, our independent public accountants, the NSF program office, the NSF grants office, and the grantees. The Foundation has agreed with our interpretation that SBIR grantees should undergo a biennial audit similar to those described in OMB Circular A-110. An agreement has been made that in the upcoming revision of NSF's Grant General Provisions the reference to an A-110 audit for profitmaking organizations will be deleted.

Our reviews identified accounting system deficiencies that were a function of the small size of SBIR companies and the relatively short length of time they had been operational. These deficiencies could also be attributed to the firms' limited business experience, and the limited contact the companies had with the federal government's granting institutions.

Most of the small firms reviewed had not established internal controls, segregated duties, and formalized policies and procedures as a part of their business practices. Many of the firms were new and were more focused on scientific work than on compliance with grant terms and conditions. The lack of emphasis on the recordkeeping and day-to-day administrative management of the small businesses contributed to the following:

- Unsupported and unapproved procurement. Some small businesses believed they could use grant funding under phase II grants as they deemed appropriate. For example, funds were used to purchase equipment when equipment purchase had not been part of the approved grant.

- Inability to demonstrate that purchases were made at the lowest price. Little or no documentation existed to show that a review of price had been made or that there had been any attempt to minimize expenditures for procurement.
- Conducting business and drawing down federal funds without the necessary accounting and financial records to support the request. In some cases, this resulted in requests for funds in excess of expenditures.
- Incurring travel expenses, without conforming to federal directives. In addition, guidelines were not established to control such expenditures.
- One person administering all aspects of an activity. There were insufficient internal controls and supporting documentation to compensate for the small sizes of the firms and insufficient control structure as required under federal awards.
- Inadequate employee time and attendance records. Often a small staff believed that it knew how all of its personnel time was spent. These practices provide inadequate support for requesting federal funds.

We also identified problems that did not seem to be a result of a firm's small size or limited experience in the business. These problems include:

- Many firms thought that phase II awards were fixed-price grants. They did not understand that the federal government treated a fixed-price grant differently from a cost-reimbursable grant. They seemed to believe that federal money could be spent for

whatever purposes they considered necessary.

- Many firms said that they had not seen the Grant Standard Provisions, the Grant Policy Manual, or any documentation other than the one-page grant award letter. Lack of familiarity with grant terms and conditions was the major reason for adverse findings.
- There were a significant number of grantees who did not understand that indirect costs had to be incurred before they could be reimbursed. Grantees were also confused about what was included in indirect costs. We recognize that calculation of indirect costs can be technical. However, we believe that the grantees should understand the importance of establishing a realistic indirect cost rate and the proper application of the rates.

In conclusion, we have made recommendations and observations, based on our reviews, both to NSF and to the grantees. We made suggestions and recommendations that improve compliance with grant terms and conditions, but which do not require the "building of a bureaucracy" within these small businesses.

As a result of our recommendations: (1) NSF program and grant officers determined that the SBIR grantees should be relieved of the burden of biennial independent audits, (2) advice on compliance with grant terms and conditions will be provided to grantees at the beginning of the grants instead of during the grant implementation or during an audit, and (3) OIG will assist in training sessions for current and future SBIR recipients.

Nonprofit Fails To Correct Deficiencies

NSF awarded two grants for an aggregate \$779,768 to a nonprofit institution, located in the southeast, whose mission is to increase the number of minority students who qualify for and complete the study of engineering. These grants were awarded in August 1985 and in December 1988. The expiration dates were in May 1989 and in May 1990, respectively.

In 1988, NSF conducted an audit on the first of the two grants. We questioned \$63,625 in costs. Questioned costs were the result of unsupported costs, claimed costs not in agreement with the grantee's records, and costs charged to the incorrect grant. During negotiations to resolve these findings, the grantee assured NSF that problems had been resolved. The grantee also stated that most of the questioned costs were a result of the timing of recording expenditures. Since the audit had been made on an interim basis the grantee claimed that questioned costs had subsequently resolved themselves. The grantee and the grant officer requested a second audit to verify that corrective actions had been taken and that allowable costs had been recorded properly.

In this reporting period, we updated the first audit and followed up on the findings in the prior audit report. The second audit found that corrective action had not been taken.

The second audit questioned \$162,142. This amount is comprised of \$63,625 from the original audit and an additional \$98,517 of newly questioned costs. Once again, these costs were questioned because of unsupported costs, costs not in agreement with the grantee's records, and costs charged to the incorrect grant. In addition, we found inadequate segregation of duties for proper internal control, arbitrary allocation of time between direct and indirect cost categories, and failure of the company's independent auditors to attest to the fiscal integrity of the institution's financial transactions.

OIG will be monitoring resolution activities closely.

Corporation Does Not Retain Documentation for Grant Expenditures

NSF awarded a \$340,088 grant to a nonprofit corporation, which provides innovative learning experiences and opportunities for youth and adults. The grantee withdrew the entire amount of the grant, which expired in July 1987. We questioned costs totaling \$285,095.

The corporation did not have adequate documentation to support its expenditures under the grant. Auditors found that:

- salaries and wages were not supported by hours recorded on biweekly timesheets,
- the allocation basis for fringe benefit costs could not be supported,
- stipends and travel costs included as participant support were not supported by adequate documentation,

- subsistence and other costs included as participant support and domestic travel costs were not supported by adequate source documentation,
- consulting costs were not supported by agreements or other required documentation,
- indirect costs claimed were not supported by indirect cost rate proposals, and
- claimed costs on the final federal cash transactions report exceeded amounts on the books of account.

In addition to questioned costs, the grantee had problems with internal control and compliance. We found that the grantee did not (1) commission an audit of its financial statements, (2) meet grant requirements for advance funding, (3) comply with interest and drawdown requirements, (4) have written accounting procedures, and (5) have a system for reviewing allowability of costs.

We will continue to monitor the corporation's progress.

Museum Improperly Enters Into Contracts and Consulting Agreements

NSF awarded a \$1,627,901 grant to a natural science museum to produce science curricula designed to make science more accessible to elementary school children and their teachers. This is the only federal award received by the museum.

Under the terms of the grant, costs to develop and distribute the curricula are to be reimbursed by the government, subject to audit. In addition to the direct costs of the program, the grant specified a fixed amount to cover the museum's indirect costs. This fixed amount was a substitute for an indirect cost rate and was established during the grant award process.

The museum had questioned costs resulting from (1) incorrect allocation of an individual's salary and fringe benefit costs, (2) charging

unallowable costs to the grant, (3) incorrectly charging indirect costs to the grant as direct costs, and (4) awarding contracts and consulting agreements in violation of federal conflict-of-interest rules. We questioned \$249,802 in costs.

In addition to the questioned costs, the grantee did not (1) conduct the required OMB A-110 audit, (2) deposit cash advances into an interest-bearing account, (3) follow government standards for property and procurements, (4) maintain written accounting procedures, and (5) adequately separate payroll functions. The grantee also violated internal control guidelines by returning checks to pay for goods and services to the individual who originated the procurement action.

New York Museum Claims Exceed Documented Support

A science museum in New York had four NSF grants totaling \$913,713, of which \$634,005 has been drawn down to date. The museum wanted to improve the effectiveness of science by developing two exhibits; collaborating on projects with schools; and developing a program to encourage women, minorities, and the physically impaired to enter careers in science and mathematics.

The audit identified questioned costs at the museum resulting 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.

The museum had problems with compliance and internal control requirements. The grantee did not (1) adequately segregate duties, (2) have written travel policies, and (3) incorrectly allocated salaries. In addition, the required independent audit had not been performed. The audit questioned \$370,958 in costs.

Fringe Benefits Claimed at Northeastern Nonprofit Exceeded Actual Costs

We audited a nonprofit natural science corporation, located in northeastern United States, which received 36 awards valued at \$4,775,307. Claimed costs under these 36 awards were \$3,866,845.

Our audit questioned \$98,706 in costs. The majority of the costs were questioned because the actual fringe benefit costs were less than those claimed on the grants. This situation arose because (1) the grantee became self-insured for unemployment compensation, thereby reducing the grantee's unemployment insurance expense, and (2) there was a change in the accounting

rules for pensions that reduced the pension expense. The grantee failed to reflect these changes in the fringe benefit rates charged against NSF grants.

In addition to these questioned costs, the grantee (1) did not have adequate documentation to support expenditures for travel and equipment and (2) used federal funds for purposes other than intended without NSF's written approval. The corporation also had not conducted an audit as required by OMB Circular A-110.

INTERNAL AUDIT

Introduction

Internal Audit is one of two operational components in the Office of Internal Audit and Investigations. Internal Audit is responsible for reviewing and evaluating the financial, administrative, and programmatic aspects of NSF activities. These responsibilities also include evaluating internal controls, reviewing data processing systems, examining allegations

of improper actions by NSF staff, performing inspections, and following up on the implementation of recommendations included in both NSF and General Accounting Office (GAO) audit reports. Significant findings of three audit reports issued by Internal Audit during this reporting period and one financial forecast are discussed below.

Women in Science and Engineering Program

Women in Science and Engineering (WISE) is an interagency program that contributes to the fulfillment of national goals by encouraging women to achieve their highest scientific and technical potential. Employees in the WISE program combine resources and share information to develop more effective programs for women scientists and engineers. The program is supported primarily by registration fees from participants who attend WISE training seminars and programs. WISE activities include (1) recruiting women scientists and engineers for the federal government; (2) sponsoring

training, education, and information programs; (3) recognizing women scientists and engineers who have made significant contributions to the government; and (4) supporting programs in science, engineering, and mathematics to stimulate interest by female students in careers that require scientific and technical skills.

WISE was initiated by an Office of Equal Opportunity (OEO) employee in the mid-1970's. Although WISE was not initially a formal program, NSF supported the activity by allowing the use of OEO resources and a portion

of OEO staff time to work on projects. The Foundation formally became responsible for the program in April 1989, when OEO decided that the operation and financial accounting of the program needed to be controlled by NSF. The reason given for this action was to strengthen financial control and overall accountability.

We evaluated the internal controls over the financial transactions and tested the reasonableness of the revenues and expenditures reported on NSF's financial accounting records from April 1989 to April 1990. We did not audit any transactions for the WISE activity before April 1989. In addition, we did not evaluate management's decision to incorporate WISE as a formal NSF program as of April 1989.

Our review revealed that the Assistant Director for Administration needs to establish written procedures for recording funds received through the mail. Because of weak internal controls, we could not attest that all revenues received for the WISE program were reported in its budget

execution plans. The review also concluded that (1) the Foundation improperly accepted appropriated funds from government agencies for reasons other than scientific or engineering research, (2) appropriated funds were incorrectly used to purchase personal items, (3) funds were improperly deposited into NSF's Trust Fund account, and (4) the Division of Financial Management processed a program element code for the WISE program without adhering to accepted procedures for establishing such codes.

Except for the first issue, NSF agreed with and acted upon all of the recommendations resulting from this review. In regard to the practice of accepting appropriated funds from other agencies for other than scientific or engineering research, NSF's General Counsel has concluded that the law does not bar this practice for certain types of funding methods. (See page 33 for a more detailed discussion of this issue.)

Proposal Data Integrity in NSF's Central Computer Database

A portion of the Foundation's central computer database contains a variety of information relating to research proposals seeking funding from NSF. An example of database information relating to proposals include:

- general data (proposal ID, proposal title, institution name, and researcher name),
- demographic data (researchers' gender, minority, and physical impairment status),

- reviewer data (evaluations and recommendations by other researchers), and
- budget data (total requested amount divided into major segments).

Information contained in this database is used by NSF personnel to answer questions, make decisions, and generate statistical reports for NSF as well as others outside of NSF. The information in the database must be accurate and

should match the information found in the official folder so that any analysis based on data from the automated database is verifiable. Every reasonable means should be used to ensure the accuracy of the contents in the database.

Our review focused on determining the accuracy of the proposal information that is maintained in the database. We selected a sample of proposals received from October 1989 through March 1990 and compared selected fields from the source documents in the proposal folders (i.e., the official file documenting proposal processing) to the contents of the corresponding fields in the database. This database is loaded daily and weekly from the finance and proposal and award systems, and it is used as an information source for reports and statistics on proposals received by NSF.

Individual data elements were considered to be in "error" if the database and the proposal folder information did not match. This resulted in three types of "errors." Type "N" errors reflected situations when information was in both the folder and the database, but it was not the same. Type "D" errors reflected situations where the database element was blank, but the information was in the folder. Type "F" errors reflected situations when the folder field was blank or the source document was missing, but information was in the database.

Explanation	Error Rate
Type "N" errors	2.2%
Type "D" errors	2.2%
Type "F" errors	4.9%
	9.3%

About one-fourth of the items considered errors in the review were attributed to instances where actual data field values from the two sources did not match. Most of the other errors were caused by improper handling or filing of proposal processing forms, misplacing entire folders, or not entering specific proposal information into the database (Type "D" and "F" errors). Other factors that contributed to errors in all of these areas were the variety and inconsistency in the content as well as the usage of data elements, forms, and procedures within all NSF divisions. We concluded that NSF needs to standardize its proposal processing system so that the training staffs have an accepted system for teaching and the program staffs have a common system to learn and use.

Recommendations aimed at correcting identified errors focus on (1) standardizing the forms and procedures used in proposal processing at NSF, (2) strengthening the control and review of data quality within each NSF division, (3) providing more automated validity checking of data when entering data into the system, (4) consolidating or removing any redundant or unused data fields, and (5) identifying and training all NSF employees who need assistance in any aspect of proposal processing. NSF has agreed to implement these recommendations.

NSF's Payment Policies and Practices for Advisory Committees and Review Panels

The Foundation routinely obtains advice on grant proposals from about 3,000 members of advisory committees and review panels in the average fiscal year. These individuals usually receive a fee for each day of service and a fixed amount for out-of-pocket expenses, while in travel status on NSF business. NSF also pays for transportation to and from meetings.

We conducted a study of NSF's policies and practices of paying honoraria and flat rate travel expenses to Foundation advisory committees and review panels. The study's purpose was to examine alternative honoraria policies and to determine if a change from current policies and practices is warranted. Our review disclosed that the bulk of funds used to pay honoraria came from program accounts, not the Foundation's personnel and expense accounts. We estimated that the Foundation paid about \$858,000 in honoraria in FY 1989. NSF reported to GSA that about \$337,000 was paid for chartered advisory committees and review panels as well as ad hoc experts who advise those members. The difference between the two figures approximates honoraria payments to non-chartered panels' in FY 1989.

Our review identified three alternative honoraria policies: (1) continue agency-wide the current practice of paying honoraria to committee and panel members, (2) encourage the directorates to establish their own honoraria payment policies, or (3) discontinue the payment of honoraria to committee and panel members.

We presented these alternatives and their potential financial effect to NSF's executive council, which decided not to change the existing policies and practices. The honoraria paid to advisory committees and review panels will remain at \$100 per day; however, the flat rate for travel expenses has been increased to \$160 per day.

Our review also revealed system and recording control weaknesses: (1) NSF's financial accounting system contained inaccurate honoraria and flat rate payment data and (2) Foundation advisory payment records lacked supporting documentation required by federal travel regulations.

FORECAST: “Potential Impact of Senior Executive Service Members’ Credit Hours on 1994 Annual Leave Lump-Sum Payment”

Senior Executive Service (SES) employees are scheduled to receive an 18- to 25-percent pay increase in January 1991 pursuant to the Ethics Reform Act of 1989. SES members employed by the Foundation are permitted to participate in the use of credit hours under an established alternative work schedules program. Our study’s objectives were to determine the potential effect that the proposed increase in SES salaries may have on lump-sum annual leave payments as of January 1, 1994, and to determine what portion of the annual leave payment would be attributable to credit hours used. January 1, 1994, is the date current SES members eligible for retirement would become eligible for a new "high-3" average annuity pay base.

Our study indicated that the value of credit hours used by SES members who will be eligible to retire on January 1, 1994, could cost NSF about \$386,870. This projection was based on the premise that credit hours are substituted

for annual leave that would otherwise have been taken. In addition, we projected that lump-sum annual leave payments during the same period could cost NSF approximately \$2,260,000 which could be reduced about 17 percent if the practice of allowing SES members to use credit hours is eliminated.

We found that changing the current policy would have a relatively small effect on NSF’s budget as of January 1, 1994, and a reduced effect in subsequent years. The Office of Personnel Management strongly discourages agencies from permitting SES employees to accrue and use credit hours under flexitime programs. We did not attempt to assess the non-financial value placed on flexitime participation by SES members. However, the potential negative effect of complying with the Office of Personnel Management’s recommendation may be substantially greater than the forecasted budgetary savings.

INVESTIGATIONS

Introduction

The Investigations Unit is the second operational component within the Office of Internal Audit and Investigations. It 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 warranted administrative sanctions or penalties.

Summary of Investigative Activities

OIG makes a preliminary assessment of the allegations it receives to determine if they should be investigated. Allegations that do not fall within OIG's investigative purview or which are too ambiguous to follow up effectively with

our limited resources are closed. Cases closed after a preliminary assessment may be reopened if additional information warrants such action. The following is a synopsis of our investigative activity.

Active Cases From Prior Reporting Periods	6
New Allegations Received	<u>14</u>
Total Cases	<u>20</u>
Cases Closed After Preliminary Assessment	8
Cases Closed After Inquiry/Investigation	<u>2</u>
Total Cases Closed	<u>10</u>
ACTIVE CASES	<u><u>10</u></u>

Referrals for Criminal Prosecution Pending	
From Previous Period	3
New Referrals	3
	<hr/>
Total	6
	<hr/>
Prosecutorial Declinations During Reporting Period	3
Criminal Convictions During Reporting Period	1
	<hr/>
Total	4
	<hr/>
REFERRALS PENDING	2
	<hr/> <hr/>

Summary of Significant Active Cases

- In our last semiannual, we reported that an alleged forgery of NSF letterhead was referred to the Department of Justice for prosecution. We assisted the National Aeronautics and Space Administration OIG’s investigation of this alleged forgery. A decision has not yet been made whether to prosecute.
- We assisted a joint investigation, conducted by the FBI and Defense Criminal Investigative Service (part of DOD-OIG), of a scientist for possible fraud under federal grants and contracts. The case is currently under consideration by the U.S. Attorney’s Office in Los Angeles, California.
- An investigation of a case involving the alleged forgery of NSF letterhead was referred for prosecution by the OIG to the U.S. Attorney’s Office in San Diego, California. The U.S. Attorney’s Office declined to prosecute and administrative action is pending.
- We investigated allegations of sexual harassment, sexual assault, and threats of professional and academic blackmail by a co-principal investigator on NSF-funded research. Although the investigation revealed that no federal criminal statutes were violated, it did indicate that the pattern and effect of the co-principal investigator’s actions constituted a serious deviation from accepted research practices. NSF is pursuing administrative action under the Misconduct in Science and Engineering Research regulations. (See pages 26 and 27 for a more detailed explanation.)
- Other active cases involve allegations of conflict-of-interest violations and possible grant fraud.

Significant Cases Resolved During This Reporting Period

Two embezzlement cases were closed during this reporting period: one resulted in conviction and the other was dismissed by a local prosecutor's office in California.

■ From June 1986 through July 1989, an administrative assistant to a grantee organization in Boulder, Colorado, used a false social security number to embezzle NSF grant funds totaling \$68,681. In February 1990, after the embezzlement was discovered, the grantee notified the FBI, the Boulder police, and the Foundation. The Department of Health and Human Services' Office of Inspector General, which has jurisdiction over social security fraud, was notified and investigated the use of the false social security number.

In March 1990, the Investigations Unit was advised that the U.S. Attorney's Office in Denver was planning to charge the administrative assistant with violating 18 USC 408g, "False Use of Social Security Number." We then provided information to the U.S. Attorney's Office that the money embezzled was NSF grant funds and therefore retained its federal status. Our assistance helped the U.S. Attorney's Office to strengthen its case and charge the defendant with violating 18 USC 641, "Embezzlement."

On June 7, 1990, the defendant pleaded guilty to one count of embezzlement. On July 30, 1990, the defendant was sentenced to 8 months imprisonment and 2 years of supervised release. Restitution was not ordered by the Court, but the grantee's insurance company reimbursed all the money except the \$2,500 deductible. In

addition, the grantee has implemented new internal controls as safeguards to prevent future losses.

■ Between October 1985 and December 1987, the bookkeeper for a California grantee organization allegedly embezzled about \$16,000 of NSF grant funds. The alleged embezzlement was discovered during the summer of 1988, and the grantee contacted local law enforcement officials. Although federal funds were allegedly embezzled, no federal authorities were informed. On December 7, 1988, the bookkeeper was arrested by California law enforcement authorities and charged with embezzlement under the pertinent California statute.

In November 1989, the deputy director of the cognizant division was notified of the embezzlement. He informed the IG, and we began monitoring the case. Because the matter was already under prosecution by local authorities, we did not refer this matter for federal prosecution. On May 9, 1990, the District Attorney's Office in Oakland, California, dismissed the charges. We decided not to refer this matter for federal prosecution because of the passage of time and evidentiary problems with the case.

Upon the recommendation of the IG, the NSF's Director reprimanded the grantee for not contacting NSF or other federal authorities upon discovery of the alleged embezzlement and for maintaining inadequate financial accounting controls, which facilitated the embezzlement and effectively precluded both successful prosecution and insurance recovery.

Student Loan Default Rate Is Low for Principal Investigators

During this reporting period, we approached the Department of Education about developing a computer match program for federally insured student loans that are in default. The match program is developed in two stages: a pilot match and a formal match.

The pilot match provides information on the number and the aggregate amount of all loans in default. It does not identify individuals in default or indicate the value of their outstanding loan balance. Based on the results of the pilot match, an assessment is made about whether it is cost effective to execute an agreement for a formal computer match.

A formal agreement permits the exchange of detailed information on guaranteed student loan recipients between NSF and the Department of Education. Education could use the detailed information derived from the formal match to locate individuals who have outstanding balances on defaulted student loans. NSF would use the detailed information to ensure that it was

not providing federal funds to individuals already in default of guaranteed student loans.

In accordance with OMB guidelines, NSF and the Department of Education conducted a pilot match. The pilot match compared social security numbers of NSF's 22,000 principal investigators to Education's 1.2 million default files. The match indicated that 68 loans were or had been in default. Of those only 13 have outstanding balances, with a relatively small aggregate value.

Because both the number and aggregate value of defaulted loans with an outstanding balance was relatively small, Education and OIG decided that it would not be cost effective to develop a formal agreement at this time. The results of this pilot match reinforced our level of confidence in the financial integrity of the Foundation's principal investigator community.

OVERSIGHT ACTIVITIES

Introduction

The Office of Oversight focuses on the science-engineering-education-related aspects of NSF operations and programs. The office conducts and supervises compliance and performance audits as well as investigations of NSF's programs and operations. It handles all allegations of nonfinancial misconduct in science, engineering, and education and is

beginning studies on the general problem of misconduct. It oversees the operations and technical management of approximately 200 NSF programs, undertakes inspections, and performs special audits and studies.

Misconduct in Science and Engineering

NSF defines "misconduct" in its July 1, 1987, regulations (45 CFR 689) as

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

(2) material failure to comply with federal requirements for protection of researchers, human subjects, or the public or for ensuring the welfare of laboratory animals; or

(3) failure to meet other material legal requirements governing research.

Summary Data for Misconduct Allegations		
	FY90	FY89
Received During FY	41	6
Closed Out During FY	18	3
In Process at End of FY	26	3

The number of allegations brought to our attention during FY 1990 is almost a seven-fold increase over FY 1989 and shows a new and increasing awareness, within NSF and in the science-engineering-education community, of our responsibility to investigate all allegations of misconduct. Our ability to close out 18 cases and to proceed with 26 others reflects the work of about 1.5 person years, which includes an increase of one professional after the start of FY 1990.

As our work with allegations of misconduct in science, engineering, and education has increased, we have found it necessary to (1) explain to the science and engineering community how we handle allegations of misconduct under NSF regulations, (2) inform NSF staff of their role in misconduct matters so that they promptly forward inquiries and investigations to OIG, and (3) revise our procedures for handling misconduct allegations based on experience gained.

OIG Procedures for Misconduct Allegations

We prepared a letter for distribution to the science and engineering community that describes procedures followed on receipt of an allegation of misconduct in science, engineering, or education. Our letter both explains our procedures and affords scientists and engineers an opportunity to respond with comments and questions.

Our letter notes a frequent need to clarify an allegation in order to determine whether it falls within the NSF definition of misconduct, whether it concerns NSF, and whether there is some evidence supporting it. If these conditions are met, our standard practice is then to contact the subject of the allegation, asking for comments or an explanation, before contacting any third parties. This practice helps to ensure that the subject's reputation is not compromised by our preliminary proceedings. If the subject's explanation resolves the matter, the case is closed at that point.

Many allegations, however, will require probing beyond this stage by means of a preliminary inquiry or a formal investigation conducted by OIG or by the cognizant institution. It is our practice, unless there are strong reasons to the contrary, to defer these proceedings to the subject's institution. Our letter emphasizes OIG's concern that subjects, complainants, and witnesses be accorded fundamental fairness and due process by both OIG and by any institution to which OIG may defer an inquiry or an investigation. Our initial effort to meet this concern is OIG's review of an institution's published policies and procedures for conducting an inquiry or investigation into alleged misconduct. Later, by carefully reviewing inquiry and investigative reports, OIG can verify the adequacy of the procedures actually used by institutions in evaluating complaints of misconduct referred to them. Finally, OIG solicits comments by the subject before an investigative report becomes final.

Our letter also addresses questions about what information is made publicly available on misconduct cases. While a case is open, OIG neither confirms nor denies its existence, and does not give out information about the conduct of the case. This practice provides the confidentiality necessary to conduct an adequate inquiry or investigation and protects the subject's good name in case the allegation is

false. Our letter also mentions our standard practice of providing informants with "confidential informant" status, whenever requested, in order to minimize the chance that reprisals will be taken against an individual who, in good faith, provides information about alleged misconduct. Closed out cases are subject to requests under the Freedom of Information and the Privacy Acts.

NSF Staff Handling of Misconduct Allegations

We prepared a bulletin (OIG Bulletin 90-02) for distribution to NSF staff that sets forth the procedures that staff members must follow whenever they become aware of possible misconduct by someone who has an NSF award or has submitted a proposal.

The basic requirement is that staff must inform OIG of any misconduct allegation immediately. The bulletin emphasizes that OIG heavily

depends on program staff to bring such allegations to its attention and to provide expert help as it resolves them. Program staff, like OIG staff, are required to maintain strict secrecy about allegations, and may not give information about them to persons outside the Foundation. Program staff may not conduct their own inquiries into allegations and may not take adverse actions against investigators on the basis of such allegations.

A Sample of Misconduct Cases

Debarment Recommended for Misconduct

OIG has recommended that a researcher be debarred from receiving grant funds from the federal government for a 3-year period. The subject involved is a biological scientist who directed research at a field site in a foreign country with funding from NSF's Research

Experiences for Undergraduates program. The funding included support for undergraduate students sharing in the research at the site and working with the researcher afterward to analyze the data collected.

In November 1989, OIG received allegations of misconduct against the researcher. Our investigation involved conducting extensive interviews and collecting affidavits. We analyzed these materials in an investigative report and recommended debarment.

OIG determined that the researcher had been involved in 16 incidents of sexual misfeasance with female graduate and undergraduate students at the research site; on the way to the site; and in his home, car, and office. Many of these incidents were classifiable as sexual assaults. OIG further determined that these incidents were an integral part of this individual's performance as a researcher and research mentor and represented a serious deviation from accepted research practices. Therefore, they amounted to research misconduct under NSF regulations.

The offense was found to be aggravated by several considerations. The researcher had considerable control over the students at the site. He used alcohol to excess at the site and in connection with sexual misfeasance. He

threatened to "blackball" graduate students in the professional community if they reported his behavior to authorities. He manipulated access to the data and the computer used to analyze the data in order to create opportunities for sexual misfeasance. The researcher violated the requirements of both the proposal under which his work was supported and the Research Experiences for Undergraduates program.

NSF's Office of the Director accepted OIG's recommendation of debarment, but extended the proposed term of debarment from 3 to 5 years. In accordance with regulations, the Office of the General Counsel, under authority from the NSF Director, served the subject with a notice of proposed debarment, and he was given a 30-day period in which to reply. In response, the researcher requested that the reply period be extended for 6 months. The Foundation's General Counsel extended his reply period for an additional 30 days. A final decision on the proposed debarment will be made after the researcher's reply is received.

Most misconduct allegations are less serious than the case described above. Some allegations are not substantiated, while others involve minor misbehavior that can be handled without imposing sanctions. We most often encounter the types of misconduct seen in the following examples of plagiarism.

Plagiarism

- One case came from a researcher who thought that the proposal she was reviewing for NSF might have plagiarized her own work. The NSF proposal contained an experimental method that was similar to the one employed in proposals that she had submitted to various federal agencies. She believed that the writer of the NSF proposal might have reviewed some of her earlier proposals, and might have used them in writing his NSF submission.

OIG contacted all the agencies that had received these earlier proposals. In many cases, the agency found that the accused party was not a reviewer. The proposals that were not eliminated in this way were submitted to an expert who was asked to compare them with the NSF proposal. This expert determined that the similarity between the work of the two researchers could be explained without assuming plagiarism. Since there was no direct evidence of plagiarism and the indirect evidence was not persuasive, OIG decided to close this case and take no further action.

- In another case, a reviewer complained that the “Background” section of the proposal under review contained about four sentences that appeared to be taken from an earlier published paper. OIG wrote to the accused party with this information. He replied that

he had made a gross error in writing his proposal, but that he had not intended to take credit for another researcher’s work. His apology was considered to settle the matter. The interested parties were informed, and the matter was closed.

- In a third case, reviewers again noticed that a proposal contained about 12 sentences, describing previous work in the field, that appeared to be copied nearly verbatim from available publications. The subject was given the opportunity to reply to the allegation. This time, OIG considered that the reply did not resolve the allegation and deferred the allegation to the subject’s institution for review.

The institution conducted an inquiry and an investigation, and it concluded that the subject was careless in his use of language in citations and did not understand the fine points of citation. The institution did not question his integrity as a scientist, however, and recommended remedial rather than punitive action. For the next year, he must discuss each grant and manuscript with his chairman before it is submitted, with regard to the accuracy of citations and quotations. At the end of the year, the chairman is to report to the Dean that appropriate guidelines have been followed. OIG considered this a suitable resolution of the matter and accepted the institution’s report.

Alleged Noncompliance with Recombinant DNA Guidelines

NSF grantees are required to comply with the National Institutes of Health (NIH) Guidelines on Recombinant DNA as part of NSF's grant conditions and, by definition, noncompliance with these guidelines constitutes misconduct in science. In late March 1990, OIG received an allegation of noncompliance with NIH Guidelines on Recombinant DNA.

The suspected noncompliance was based on a publication in a leading science journal, which was co-authored by three investigators located at two different institutions. The acknowledgment line in the paper read "This research was supported by the National Science Foundation," implying that all work reported in the paper had Foundation support. According to the paper, by using recombinant-DNA techniques certain organisms were given new properties that could potentially cause undesirable effects if the organisms were accidentally released into the environment. These experiments, it was alleged, did not have Institutional Biosafety Committee (IBC) approvals as required by the NIH guidelines.

OIG first obtained the services of a consultant in recombinant DNA research and immediately ascertained that this situation did not pose any imminent dangers to human, plant, or other subjects. Subsequently, OIG arranged a meeting with staff of NIH's Office of Recombinant DNA Activities as well as with a representative of the Recombinant DNA Advisory Committee. Expert advice was that approvals were required for some of the experiments reported in the paper and that the IBC approvals available at that time from the involved institutions did not appear to cover these experiments.

After determining who performed specific parts of the scientific work described in the paper and where that work was conducted, OIG concluded that:

- There was no violation of NIH Guidelines on Recombinant DNA by the NSF-funded awardee because no experiments performed at his university required IBC approval.
- All experiments requiring IBC approvals were conducted by the lead author who did not have any NSF support and is not covered by NSF regulations.
- The acknowledgment in the paper should have indicated that NSF provided only *partial* support for the published work.
- Required IBC approvals for the regulated experiments at the lead author's institution appeared too broad and did not adequately relate to the experiments reported in the paper, although the IBC chairman at the lead author's institution claimed to the contrary and said that his IBC understood that the experiments reported in the paper were covered by its approval documents.

OIG reported its findings to the cognizant NSF program officials, the co-authors of the paper, and the chairman of the IBC at the lead author's institution. No actions were recommended against any researcher. However, we did, in an effort to improve the quality of IBC documentation, discuss the IBC approvals involved in this case with the Department of Agriculture, which is cognizant at the lead author's institution, and with the executive secretary of the government-wide Recombinant DNA Advisory Committee.

Conflicts of Interest

Since our last semiannual report, we have continued our service to NSF management by reviewing 143 employees and 47 IPA assignees, GS-12 and above, for possible conflict-of-interest problems related to NSF proposals and awards. These individuals entered or left the Foundation between February and August 1990 and are subject to NSF's current employee and post-employment conflicts-of-interest regulations. (Our memorandum reports to NSF management are listed on page 48.) Over the last 6 months, we have improved the timeliness of our reviews by 1 month. This brings us as near to current entry and departure activity as records allow.

In July 1990, we learned that NSF has individuals working at the Foundation as "volunteers." Prior to this time, we were

unaware of the existence of such a category of "employee" and did not include them in our routine conflict-of-interest reviews on incoming and leaving personnel. Because these "volunteers" are subject to conflict-of-interest regulations, we are now including them in our reviews.

In addition, the eight conflict-of-interest inquiries that were underway during the preparation of our last semiannual report have been completed. All conflict-of-interest questions have been satisfactorily resolved and specific steps have been implemented to avoid similar problems in the future.

Special Oversight Reports

Management Audit

At the Director's request, OIG conducted an inquiry into a dispute that had arisen between a former IPA employee and his NSF management. At the end of his tenure at NSF, the employee recommended a number of proposals for funding, and he called the researchers who had submitted the proposals and told them they could begin work. His division management later called some of these researchers to tell them that their awards were being declined. As

a result, NSF received complaints from two researchers as well as congressional inquiries.

Division management stated that the employee overcommitted his program funds for future years, thereby making the declinations necessary. The employee denied the charge and claimed that the division had originally approved his recommendations. In addition, he accused management of confiscating his program funds by canceling his awards.

OIG found that the employee had overcommitted his future-year funds. He was also at fault for announcing to the proposing researchers, before NSF's Division of Grants and Contracts had processed their grants, that funds were definitely available and they could

start work. No evidence of confiscation of funds was found. However, the cognizant division contributed to the problem by failing to keep track of its future-year funding recommendations and commitments.

Committees of Visitors: Status of Reports

To monitor and assess the technical management of its programs, NSF organizes Committees of Visitors (COV), formerly called external peer oversight committees. The committees review each NSF program every 3 years. A committee from outside NSF accomplishes the task by considering a series of important questions that address the quality of the merit reviews conducted by the program; the quality of the decisions made; balances among subject matter, size versus number of awards, age, or geographical distribution of principal investigators; and whether the program is meeting the objectives NSF has set for it.

The COV review, based on briefings by program officials and an examination of proposal and award files, results in a written report. This report describes the review, addresses the important questions, and provides an appraisal of the technical management of the program. Copies of the Committee report come to the Office of Inspector General. The Office of Oversight uses the reports to monitor the

technical management of NSF's programs on an ongoing basis.

During 1989 and 1990, NSF management changed the system for obtaining assessments of the technical management of the agency programs. However, to date, there is still no complete written authority that describes the system as it is currently supposed to operate. Since the COV system is a critical means to maintain quality control in the proposal review and award process by which NSF expends about \$2 billion annually, we believe that NSF should address this need.

During FY 1990, 55 programs were due for COV review. Of these, 43 reviews were held and 12 postponed. We continue our review of these 43 reports as they arrive in NSF. Concurrently, we will be assessing the adequacy of the COV system for providing an appraisal of the technical management of NSF's programs.

LEGAL ISSUES

Introduction

The Counsel reports directly to the IG 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.

During this reporting period, OIG attorneys supported many of the activities that are described in other sections in 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 IG 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. Our relationship with the General Counsel and his staff remains wholly cordial and effective. Throughout this reporting period our legal recommendations have been generally accepted.

Misconduct Regulations Should Apply To Grants in Support of Education As Well As Research

NSF regulations proscribe fabrication, falsification, plagiarism, or other serious deviation in proposing, carrying out, or reporting results from research. NSF was the first federal agency to prohibit this type of misconduct in research, which helps to ensure

that federal funds are used only in support of appropriate scientific and engineering research.

A substantial portion of NSF grants, however, support mathematical, scientific, and engineering education rather than research. One

of the Foundation's program directorates devotes almost all of its resources in support of education. All program directorates support science education at some level.

We believe that NSF should act to ensure the integrity of grants supporting education as well as research. Accordingly, we recommend that NSF's regulations on misconduct be promptly amended to proscribe misconduct connected

with any type of NSF grant, whether related to research or education.

We have raised our concerns with the Director of the Foundation, and he has directed NSF's Office of General Counsel to initiate an amendment to NSF's misconduct regulation to ensure that it covers all grants. As of this writing, a draft of a proposed amendment to the misconduct regulations is pending within the Office of General Counsel.

Authority of Foundation To Accept Funds for Support of Education

NSF provides grants to support research and education in both science and engineering. In recent years, NSF has devoted over 20 percent of its resources to support education in mathematics, engineering, and science from elementary school through post-graduate training.

Other federal governmental agencies that have resources to support science and engineering research and education have found that it is more efficient to transfer funds to the Foundation to supplement or complement ongoing NSF programs. We agree that in many situations this is a prudent and efficient way to employ the general resources of the government.

NSF has explicit legislative authority to accept funds from other agencies only in support of research, but not education. Under section 14(f) of the National Science Foundation Act, the Foundation is authorized to accept funds from other agencies only "for scientific or engineering research." Other sections of the Act specifically authorize NSF to support "research

and education." Because the Act uses the terms "research" and "education" as separate items, we believe it is inappropriate to interpret "research" within the meaning of section 14(f) of the Act as encompassing "education." Under this reading of the Act, NSF does not have clear authority to accept funds from other agencies in support of education in mathematics, science, and engineering.

We have raised this gap in legislative authority with the Foundation. The Foundation's Office of Legislative and Public Affairs (OPLA) has requested that the Congress adopt a corrective legislative amendment. NSF's Office of General Counsel has reviewed this issue and found the applicable law to be "undoubtedly murky and debatable . . ." While agreeing that "it would be preferable to remove doubt by seeking an amendment" to the NSF Act as requested by OPLA, OGC has nevertheless concluded that the Foundation may in the meantime continue to use certain methods for accepting funds from other agencies in support of education.

Other federal government agencies should be able to carry out their missions in support of mathematics, science, and engineering education by transferring funds to the Foundation to complement ongoing NSF programs. For this

reason, we recommend that section 14(f) of the NSF Act be amended to authorize clearly the Foundation to accept funds from other agencies to support education as well as research.

Federal Advisory Committee Act

NSF relies on outside expert advice in deciding whether to provide funding to a grant applicant. In many cases, outside experts serve on panels that review proposals for grants and make recommendations to the Foundation concerning the merit of each application.

These peer review panels are subject to the legal requirements of the Federal Advisory Committee Act if they serve as “a source of consensus advice” for the agency. We believe most peer review panels serve as a source of consensus advice concerning the merit of grant applications and are, accordingly, subject to the requirements of the Advisory Committee Act. Under the Act, NSF is required to publish a notice of the creation of an advisory committee in the *Federal Register* and is obligated to prepare minutes for every committee meeting.

The Office of Management and Budget, the General Services Administration, and the Congress are generally concerned that there are too many advisory committees in the government. NSF has been pressed to maintain as few advisory committees as practicable. In

response to this pressure, the Foundation had asserted that many of its peer review panels were exempt from coverage by the Advisory Committee Act.

All of the Foundation’s peer review committees serve a valuable purpose, and they provide an efficient and economical way to obtain sophisticated technical advice. We believe that pressure on the Foundation to reduce the number of committees is misplaced. Nonetheless, we advised the Foundation that it was our view that all advisory committees were subject to the Act.

In this reporting period, NSF’s Office of General Counsel and Division of Personnel and Management have implemented a creative system that treats all peer review committees as subject to the Advisory Committee Act and reduces the Foundation’s administrative workload. The Foundation has reported to us that the new advisory committee system has been reviewed by Congress, OMB, and GSA and has met with their approval.

Summary of Other Legal Issues

During this reporting period, the Foundation took action on our legal recommendations concerning the following matters:

- The Foundation changed its policy concerning travel by spouses on government airfare. Under the revised NSF policy, which is consistent with the governing federal travel regulations, spouses of NSF employees may obtain government airfare tickets only if they are on official government business, with or without pay.
- Scientists who serve on panels that review proposals for grants receive reimbursement from the Foundation for lodging, meals, and expenses. Under requirements contained in the federal travel regulations, visiting scientists may be compensated for these expenses up to a defined limit if they submit vouchers for hotels and certain transportation expenses. To reduce the agency's administrative workload, the Foundation does not currently obtain hotel or other vouchers from its visiting scientists. After reviewing our comments, the

Foundation sought advice from its Office of General Counsel; it then decided to restructure its reimbursement of these expenses. In the future, panelists will receive increased compensation for their services, but will not be reimbursed directly for travel and hotel expenses. Panelists will be subject to income taxation on the entire amount paid, but they may be able to deduct their travel and hotel costs as business expenses.

- NSF operates a trust fund that may be used for any of the purposes of the Foundation. Under the provisions of the NSF Act, the Foundation may accept donations to the trust fund from U.S. sources only if the funds are donated for one or more of the general purposes of the Foundation. In the past, NSF has occasionally accepted donations for a specific, narrowly defined purpose. The Foundation will discontinue this practice in order to comply with the pertinent provisions of the NSF Act.

■ The Foundation also agreed to our suggestion to amend its regulations on the Freedom of Information Act (FOIA). Requests for our Office's records under FOIA were previously processed by the Foundation's FOIA officer. Our investigative records must be kept confidential to protect ongoing internal and

external investigations. Therefore, OIG files should be reviewed only by our Office whenever practicable. For this reason, the Foundation is amending its regulations to give our Office the authority to decide whether OIG records should be released pursuant to a FOIA request.

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, 1990, to September 30, 1990, three reports with significant audit recommendations have been resolved. One of these reports was reported in OIG's first Semiannual Report to Congress

(Number 1) and the other two were reported in OIG's second Semiannual Report to Congress (Number 2.)

"New Grants Suspended at California Museum"

During this period, a final negotiated settlement was reached with the museum. The museum's records lacked documentation from 1983 through 1987, so a negotiated indirect cost rate was established. For FYs 1988 and 1989, NSF established an indirect cost rate that increased the costs claimable under the active grants.

As a result of our audit findings, the museum (1) hired professional accounting staff to implement financial and management reforms and (2)

installed an accounting system that meets federal requirements. The museum paid \$55,208 to NSF; the federal cash transactions report was adjusted by \$8,393; NSF credited \$59,209 in underclaimed indirect costs which was used to offset the remaining disallowed costs. We consider the matter resolved. (Semiannual Report No. 1, page 9.)

"Travel Service Contract Poorly Documented"

NSF awarded a \$3,140,564 contract to a profit-making corporation that provides travel services. The company's services included arranging travel accommodations and meeting rooms and administering per diem expenses for out-of-town travel.

The company did not have adequate documentation to support approximately \$1 million of costs claimed under the contract. In addition, the contractor had received payments

from NSF of \$139,987 in excess of claimed costs. After prolonged searching, the missing documentation was located at the residence of a former controller of the company. Additional documentation was presented to cover a portion of the funds received in excess of claimed costs. NSF negotiated a settlement with the company for \$85,117. (Semiannual Report No. 2, page 8.)

"Museum Awards Noncompetitive Subcontract"

NSF awarded a \$302,006 grant to a science museum. The museum's primary purpose is to promote public and private education by developing and expanding its educational, research, and scientific activities.

The museum awarded a noncompetitive subcontract to construct an exhibit to a company owned by one of the scientists employed under the grant. This subcontract was awarded

without NSF's written approval. During the resolution process, DGC determined that an NSF program officer had been advised in writing of the details of the situation before the subcontract was awarded, but had failed to answer the grantee's request for approval. As of September 30, 1990, the program officer is no longer working for NSF. (Semiannual Report No. 2, page 8.)

REPORTS WITH OUTSTANDING MANAGEMENT DECISIONS

No management decisions have been made for the following 29 reports. All were issued before the start of this reporting period. DGC is tasked with the resolution of recommendations contained in external audit reports. During this reporting period, DGC resolved recommendations for 21 of the 50 reports that were

over 6 months old. Progress has been made in the resolution process, but continued attention must be applied to all unresolved reports. When a report is more than one year old, the resolution process becomes more difficult. OIG and DGC will continue to work together to improve audit resolution.

Audit Number	Title	Date Report Issued
87-1017	Osborne-Hoffman	01/29/87
87-1127	Woodrow Wilson National Fellowship Foundation	07/06/87
88-1133	RF Monolithics, Inc.	09/20/88
89-1014	Kariotis & Associates	10/31/88
89-1081	Southeastern Consortium	01/03/89
89-1135	Smithsonian Institution	04/26/89
89-1152	Sonoscan, Inc.	05/18/89
89-1175	Triple Vision, Inc.	05/31/89
89-1181	NY Botanical Garden	06/12/89
89-1206	Atlanta Thoughtworks One	07/11/89
89-1207	Ctr. Adv. Study Behav. Sci.	07/11/89
89-1223	KMS Fusion, Inc.	08/25/89
90-1021	Bend Research, Inc.	10/04/89
90-1034	Slotta Engineering Assoc., Inc.	10/05/89
90-1041	Council of Chief State School Officers	10/13/89
90-1048	Advance, Inc.	10/25/89
90-1063	Consad Research Corp.	10/31/89
90-1069	University of Nebraska, Lincoln	11/01/89
90-1125	Englekirk & Hart Consulting Engr.	12/18/89
90-1129	Santa Fe Institute	12/27/89
90-1131	Optivision, Inc.	01/04/90
90-1136	U.S. Automation	01/04/90
90-1139	Cyclotomics, Inc.	01/12/90
90-1181	The Exploratorium	02/21/90
90-1182	Technical Education Research Center	02/26/90
90-1184	Building Systems Development	02/28/90
90-1190	Verax Corporation	03/23/90
90-1191	Compression Telecommunications Corp.	03/27/90
90-1192	Fastman, Inc.	03/28/90

“Research Center Improperly Handled Interest Income”

NSF awarded grants to a private nonprofit research center that develops computer software for educational purposes. Our audit reviewed seven grants with an aggregate budget in excess of \$8 million awarded over a 4-year period. Some of these grants allowed the center to generate income from activities undertaken in performance of the award.

We found that the research center did not report income as required and withdrew federal funds before they were needed to meet program expenditures. In addition, federal funds were not deposited in interest-bearing accounts as required by an OMB circular. Failure by the

grantee to comply with interest income and drawdown requirements of the grant award cost the federal government more than \$17,000 in interest income and placed an additional \$133,000 at risk.

In August 1990, NSF received a check in the amount of \$537 from the grantee and a 16-page explanation of why the grantee believes this amount should satisfy questioned costs. This response is being evaluated. (Semiannual Report No. 2, page 6.)

“Inadequate Documentation to Support Matching Funds Agreement”

NSF awarded two "phase II" grants under its Small Business Innovative Research program to a privately held corporation. The corporation used the grant funds to develop an efficient process to produce various kinds of cells for medicine and research.

Documentation indicated that NSF was interested in offering a grant for about \$200,000, with the condition that the corporation finance about the same amount from its own resources. The corporation has not provided significant

support for the project from its own funds and the grantee's controller indicated he was unaware of any agreement for cofunding.

An initial response was received from the grantee on July 24, 1990. The Foundation requested additional information at the end of August, and it had not received a response from the grantee by September 30, 1990. (Semiannual Report No. 2, page 7.)

"Grantee's Claims Not Substantiated"

NSF awarded three grants for an aggregate amount of \$375,094 to a commercial corporation in the building industry specializing in techniques for mitigating the effects of earthquakes.

The audit disclosed that 62 percent of the federal funds withdrawn had not been spent for purposes specified in the grant documents. The corporation also had significant problems with internal control and compliance requirements, which may have contributed to the company's excessive drawdowns.

Meetings have been held with the company's representative, and promises for completion of the project and issuance of final reports were received. Contact with the grantee has continued on a regular basis, however, current documentation on activities and the final reports have not been forthcoming. (Semiannual Report No. 2, page 8.)

"Documentation of Small Business Expenses Lacking"

NSF awarded a grant for \$188,254 to a commercial corporation to develop and construct a new machine tool to make steel wire used for reinforcing concrete.

The corporation did not have adequate documentation to support its expenditures under the grant. Auditors were not able to find a general ledger, trial balance, timesheets, or job ledgers; could not reconcile the grantee's

financial statements; and found the grantee's filing system was inadequate.

Resolution of the report was delayed because of an initial refusal by the grantee's accountant to release documents. On July 26, 1990, some documentation was received. Review of this paperwork is ongoing. (Semiannual Report No. 2, page 9.)

"Inappropriate and Unsupported Payroll Cost Questioned"

NSF awarded two grants for an aggregate \$406,092 to a commercial corporation. The grants were in support of research concerned with noise levels on various radio bandwidths.

The corporation had questionable costs resulting from claims for funds in excess of expenditures

and salaries for individuals who did not maintain approved timecards and who had not been included in the original projects' budget.

Ownership of the company has changed. This change in leadership has delayed resolution. (Semiannual Report No. 2, page 9.)

AGENCY REFUSALS 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 WHICH WERE REVISED

No significant management decisions were revised during this 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.

LIST OF 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. During this reporting period, we did not have any reports with recommendations on how to use funds more efficiently.

EXTERNAL AUDIT

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-1193	DNA Plant Technology Corporation	04/03/90	\$ 42,534	\$ 3,317
90-1194	Denver Audubon Society	04/06/90	14,446	0
90-1195	Academy of Natural Sci. of Philadelphia	04/06/90	98,706	9,106
90-1196	National Radio Astronomy Observatory	04/25/90	0	0
90-1197	National Radio Astronomy Observatory	04/25/90	0	0
90-1198	Market Facts, Inc.	05/03/90	0	0
90-1199	College of Santa Fe	05/03/90	0	0
90-1200	East Georgia College	05/03/90	0	0
90-1201	Creighton University	05/03/90	0	0
90-1202	Eastern Illinois University	05/03/90	0	0
90-1203	Francis Marion College	05/03/90	0	0
90-1204	Duke University	05/03/90	0	0
90-1205	Purdue University	05/03/90	0	0
90-1206	Eastern Kentucky University	05/03/90	0	0
90-1207	Western Illinois University	05/03/90	0	0
90-1208	University of Georgia	05/03/90	0	0
90-1209	Citadel Military College	05/03/90	0	0
90-1210	Medical College of Wisconsin	05/03/90	0	0
90-1211	Randolph-Macon College	05/03/90	0	0
90-1212	Research Foundation of NY	05/03/90	0	0
90-1213	Randolph-Macon College	05/03/90	2,770	391
90-1214	Georgia State University	05/04/90	0	0
90-1215	Decision Science Consortium	05/04/90	0	0
90-1216	Indiana State University	05/04/90	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-1217	ITT Antarctic Service., Inc.	05/04/90	\$301,622	\$ 0
90-1218	Covalent Associates, Inc.	05/04/90	1,499	16
90-1219	Univ. of California Santa Barbara	05/07/90	0	0
90-1220	Univ. of California Santa Cruz	05/07/90	0	0
90-1221	Univ. of California San Francisco	05/07/90	0	0
90-1222	Univ. of California San Diego	05/07/90	0	0
90-1223	Univ. of California Riverside	05/07/90	0	0
90-1224	Univ. of California Davis	05/07/90	0	0
90-1225	State of Rhode Island	05/17/90	0	0
90-1226	Women's Action Alliance	05/24/90	15,277	0
90-1227	Brigham Young University	05/24/90	0	0
90-1228	Missouri Botanical Garden	05/31/90	0	0
90-1229	Drake University	05/31/90	0	0
90-1230	New York Hall of Science	05/31/90	370,958	260,030
90-1231	Yale University	05/31/90	0	0
90-1232	Wake Forest University	05/31/90	0	0
90-1233	University of Notre Dame	06/20/90	0	0
90-1234	Lake Shore Cryotronics	06/20/90	34,247	0
90-1235	Process Biotechnology, Inc.	07/13/90	9,017	0
90-1236	American Soc. of Mech. Eng.	06/21/90	48,104	11,785
90-1237	Indiana Univ. Bloomington	06/21/90	0	0
90-1238	Univ. of Mississippi Med. Ctr.	06/21/90	0	0
90-1239	Northern Kentucky University	06/21/90	0	0
90-1240	Excel Technology, Inc.	06/21/90	30,500	30,500
90-1241	Comco	06/21/90	181,289	14,840
90-1242	Mathematica Policy Research	06/21/90	0	0
90-1243	University of North Dakota	06/21/90	0	0
90-1244	Mechanical Seal Tech., Inc.	07/19/90	0	0
90-1245	Sandia Systems	08/14/90	26,176	23,807
90-1246	Intelligent Automation	07/30/90	4,809	3,851
90-1247	Artificial Intelligence Res. Inst. of Texas	07/13/90	151,755	0
90-1248	Mallory Pathology Association	08/14/90	695	0
90-1249	Bluewaters International	08/14/90	2,256	0
90-1250	INRAD, Inc.	08/14/90	13,431	0
90-1251	Institute for Research on Learning	07/31/90	10,629	3,542
90-1252	Amer. Meteorological Society	08/09/90	0	0
90-1253	North Carolina Biotechnology Center	08/09/90	0	0
90-1254	Discovery Learning, Inc.	08/09/90	286,095	231,388
90-1255	Carnegie Institute	08/10/90	14,995	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-1256	Ocean Alliance	08/15/90	\$ 525	\$ 0
90-1257	George Mason University	08/15/90	0	0
90-1258	Cornell Medical Center	08/15/90	0	0
90-1259	West Georgia College	08/15/90	0	0
90-1260	Jackson State University	08/20/90	0	0
90-1261	Mosaic Industries, Inc.	08/21/90	0	0
90-1262	Delta State University	08/22/90	0	0
90-1263	Univ. of Maine Sys. Office	08/22/90	0	0
90-1264	Ball State University	08/22/90	0	0
90-1265	Univ. of Med. & Dent. of NJ	08/22/90	0	0
90-1266	Midwest Research Institute	08/22/90	0	0
90-1267	Univ. Space Research Association	08/22/90	0	0
90-1268	Univ. of Louisville	08/22/90	0	0
90-1269	Ohio State Univ. Research Foundation	08/22/90	0	0
90-1270	Southern Illinois Univ. Carbondale	08/22/90	0	0
90-1271	Chicago State University	08/22/90	0	0
90-1272	Univ. of Alabama Birmingham	08/22/90	0	0
90-1273	Tougaloo College	08/22/90	0	0
90-1274	Hampton University	08/22/90	0	0
90-1275	Morgan State University	08/22/90	0	0
90-1276	College of William & Mary	08/22/90	0	0
90-1277	Thomas Jefferson University	08/22/90	0	0
90-1278	Friends of Fermilab Association	08/24/90	46,833	0
90-1279	Virginia State Dept. of Education	08/24/90	0	0
90-1280	Lehigh University	08/24/90	0	0
90-1281	Drexel University	08/24/90	0	0
90-1282	Kestrel Institute	08/27/90	1,443	0
90-1283	College of William & Mary	08/27/90	0	0
90-1284	Trenton State College	08/27/90	0	0
90-1285	Southern College Technology	08/27/90	0	0
90-1286	Virginia Polytechnic Institute	08/27/90	0	0
90-1287	Gulf Coast Research Lab	08/27/90	0	0
90-1288	Spellman College	08/27/90	0	0
90-1289	Georgia Southern University	08/27/90	0	0
90-1290	University of Virginia	08/27/90	0	0
90-1291	Georgia Department of Education	08/27/90	0	0
90-1292	University of Alabama Huntsville	08/27/90	0	0
90-1293	Temple University	08/27/90	0	0
90-1294	Amer. Society for Engr. Educ.	08/27/90	0	0
90-1295	Univ. of Southern Mississippi	08/27/90	0	0

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-1296	Univ. of California Berkeley	08/27/90	\$ 0	\$ 0
90-1297	Univ. Puerto Rico Rio Piedras	08/27/90	0	0
90-1298	Alabama State University	08/27/90	0	0
90-1299	Kennesaw College	08/27/90	0	0
90-1300	Univ. of California Irvine	08/28/90	0	0
90-1301	Columbus College	08/28/90	0	0
90-1302	Columbus College	08/28/90	0	0
90-1303	ITT Antarctic Service, Inc.	08/28/90	0	0
90-1304	University of South Carolina Columbia	08/28/90	0	0
90-1305	University of Virginia	08/28/90	0	0
90-1306	Three Rivers Educational Cooperative	08/29/90	0	0
90-1307	California Academy of Sciences	08/29/90	76,856	22,888
90-1308	S.E. Consortium for Minorities in Engin.	08/30/90	98,157	78,801
90-1309	Christopher Newport College	08/31/90	0	0
90-1310	William & Mary Marine Institute	08/31/90	0	0
90-1311	Clemson University	08/31/90	0	0
90-1312	Mary Washington College	08/31/90	0	0
90-1313	Radford University	08/31/90	0	0
90-1314	Florida Inst. of Technology	08/31/90	0	0
90-1315	Scholastic, Inc.	09/07/90	0	0
90-1316	Houston Museum of Natural Science	08/31/90	249,802	0
90-1317	Recording for the Blind, Inc.	08/31/90	183,446	181,089
90-1318	Horizon Research, Inc.	08/31/90	511	0
90-1319	Amer. Inst. for Res. in Behav. Science	09/14/90	0	0
90-1320	Aeon Systems	09/21/90	113,297	0
90-1321	Chicago Zoological Society	09/24/90	0	0
90-1322	Bay Port Aqua Culture Systems	09/18/90	2,174	850
90-1323	Earthquake Engineering Research Inst.	09/24/90	134,621	1,503
90-1324	American Research Corp. of Virginia	09/28/90	24,662	0
90-1325	Pacific Science Center Foundation	09/24/90	14,271	0
90-1326	San Diego Society of Natural History	09/21/90	421,216	0
90-1327	Westover Consultants, Inc.	09/24/90	7,550	0
			<u>\$3,037,534</u>	<u>\$877,704</u>

INTERNAL AUDIT

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-2107	Review of the Women in Science and Engineering (WISE) Program	08/08/90		
90-2108	Review of Proposal Data Integrity in the Mainframe Database	08/31/90		
90-2109	Forecast: Potential Impact of Senior Executive Service (SES) Members Credit Hours on 1994 Annual Leave Lump-Sum Payments	09/28/90		
90-2110	Review of NSF Payment Policies and Practices for Advisory Committee Members and Review Panelists	09/28/90		

OVERSIGHT*

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-3208	Conflict-of-Interests Review - NSF Rotator Not Properly Removed From Awards	09/20/90		
90-3209	Conflict-of-Interests Review - NSF Rotator Not Removed From Awards	06/28/90		
90-3210	Conflict-of-Interests Review - NSF Rotator Not Removed From Awards	07/24/90		
90-3212	Conflict-of-Interests Review - NSF Employee Not Removed From Awards in Timely Manner	07/20/90		
90-3216	Conflict-of-Interests Review - NSF Employee Not Removed From New Award in Timely Manner	06/25/90		
90-3217	Conflict-of-Interests Review - NSF Rotator Not Removed From Awards	08/26/90		
90-3219	Conflict-of-Interests Review - NSF Rotator Not Removed From Awards in Timely Manner	06/25/90		
90-3220	Management Audit - Inquiry Into Dispute Between Former Rotator and NSF Management	07/02/90		

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-3222	Inspection of NSF's Telecommuting Activity	09/15/90		
90-3223	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, February through April 1990	05/21/90		
90-3224	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, May through June 1990	06/15/90		
90-3225	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, February through April 1990	05/26/90		
90-3226	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, May 1990	07/27/90		
90-3227	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, June 1990 (Addendum to 90-3224)	07/27/90		
90-3228	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, June 1990	07/17/90		
90-3229	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, July 1990	08/11/90		

Audit Report Number	Title	Date Report Issued	Dollar Value	
			Questioned Costs	Unsupported Costs
90-3230	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, July 1990	08/20/90		
90-3231	Conflicts-of-Interests Reviews: Intergovernmental Personnel Act Assignees Entering and Leaving, August 1990	09/28/90		
90-3232	Conflicts-of-Interests Reviews: NSF Staff and Rotators Entering and Leaving, August 1990	09/28/90		
90-3233	Memo Tracking Report on COV Reviews	09/28/90		
90-3234	Compliance with NSF Bulletin 88-36	09/24/90		
90-3235	Conflicts-of-Interests Review of NSF "Volunteers"	09/28/90		

*Many oversight reports are brief memoranda that furnish level of compliance information to NSF management. For example, many check for adherence to NSF conflict-of-interest regulations as they apply to all new and leaving employees and intergovernmental personnel act assignees. These conflict-of-interest reports facilitate the Foundation's policy of using active scientists and engineers to rotate into the agency at all NSF staff levels.

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 table provides the required statistical information.

	Number	Dollar Value	
		Questioned Costs	Unsupported Costs
A. For which no management decision has been made by the commencement of the reporting period	50	\$4,020,729	\$1,982,627
B. Which were issued during the reporting period	37	3,037,534	877,704
C. Reports which were reopened based on additional information	4*	132,280	0
Subtotals (A + B + C)	91	7,190,543	2,860,331
D. For which a management decision was made during the reporting period	26**	1,673,729	N/A
(i) dollar value of disallowed costs		320,806	
(ii) dollar value of costs not disallowed		1,352,923	
E. For which no management decision has been made by the end of the reporting period	65	5,516,814	1,583,510
Reports for which no management decision was made within six months of issuance	29	2,479,975	978,666

* These reports were reactivated based on additional information.

** One of these has been appealed and is under Review & Negotiation.

GLOSSARY

The following defines the terms used in this report.

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 research; the material failure to comply with federal requirements for protection of researchers, human subjects, or the public or for ensuring the welfare of laboratory animals; or the failure to meet other material legal requirements governing research. (45 CFR 689.)

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

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