Semiannual Report to the Congress

OIG

National Science Foundation

MARCH 1999

MISSION

To work together with the agency and its programs so that their goals are achieved efficiently, and to detect and deter wrongdoing.

VISION

Although organizationally and operationally independent, we are part of the Foundation and choose to be inclusive.

We participate fully in the Foundation's efforts to be flexible and innovative while operating efficiently and with integrity.

We support the Foundation's mission of enabling discovery and education, and we recommend change in proportion to need and foreseeable benefit.

GOALS

Focus on substantive matters and focus our audits and inspections prospectively.

Develop fair, accurate, and timely products.

Create partnerships that enable our customers to achieve their goals.

As established in August 1998

Letter to the Congress of the United States

In my view, the National Science Foundation's Office of Inspector General can and should exercise its independent responsibilities to promote efficiency and integrity in a manner that is inclusive, flexible and innovative, and keeps issues in proportion to their significance. To do so, we must create partnerships, focus on substance, and develop fair and timely products. Our strategic plan for accomplishing these goals is described on pages i and ii of this report and is available in full on the World Wide Web (**www.nsf.gov/cgi-bin/getpub?oignov98**).

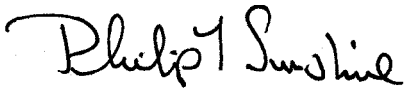
Our new strategic emphasis on partnerships is fostering an environment that facilitates continuous improvement for our Office and for NSF. For example, by working through a newly created Audit Coordination Committee, NSF management routinely made adjustments to the agency's financial statements as issues were identified by our auditors, and NSF has already begun to implement corrective action in response to the one reportable condition we identified in our audit. Because of the collaborative work of the staffs of the Inspector General and the Chief Financial Officer, we were able for the first time to issue an unqualified opinion on all material aspects of the agency's financial statements (**page 2**).

In the letter accompanying our last Semiannual Report, I explained our belief that NSF is best served by having an Office of Inspector General tailored to its mission and culture. When forwarding the Semiannual Report to the Congress, the Chair of the National Science Board described the Board's support for "a vigorous and independent Office of the Inspector General within the National Science Foundation." We continue to believe that consolidation of our Office with another Office of Inspector General should not be a part of any legislative effort to improve the efficacy of the Inspector General Act.

This Semiannual Report describes the specific reviews we conducted in the areas of efficiency (**page 1**) and integrity (**page 15**). We also describe systemic recommendations for improvement that resulted from combined integrity and efficiency reviews (**page 23**). These combined reviews will become more prevalent in the future.

We look forward to ongoing, collaborative dialogue with our partners and continued evolution for our partnering activities as we learn how to function optimally as part of NSF and how to participate fully in NSF's efforts to be flexible and innovative while operating efficiently and with integrity.

Respectfully submitted,



Philip L. Sunshine
Acting Inspector General
April 30, 1999

IMPLEMENTING OUR STRATEGIC PLAN

In our previous Semiannual Report to the Congress, we described our vision for our Office of Inspector General. In this reporting period, we continued the process of creating an OIG that is inclusive, flexible, and innovative, and keeps issues in proportion. We worked with NSF management and the National Science Board's Committee on Audit and Oversight to design our first Strategic Plan. Our Strategic Plan, which we finalized and posted on the World Wide Web (www.nsf.gov/cgi-bin/getpub?oignov98) in this period, is designed to complement NSF's Strategic Plan and enhance our work's positive effect on NSF's activities and programs. Our Plan describes the philosophy guiding our efficiency and integrity activities and our commitment to produce timely, high quality products that are useful to our customers and stakeholders. The plan articulates our core values of honesty, accuracy, timeliness, innovation, flexibility, cooperation, fairness, and goodwill, which are integral to our decision-making processes. Our Strategic Plan defines three common goals for our efficiency and integrity efforts: focusing on substance; developing fair, accurate, and timely products; and creating partnerships.

Strategies

The Strategic Plan discusses specific strategies for achieving our goals in the context of particular efficiency and integrity reviews. We focus on substantive issues by concentrating our efforts on those that involve the greatest risk to NSF. We conduct limited surveys to assess the importance of particular issues involving economy and efficiency, and we encourage the use of proactive reviews to identify potential problems and propose solutions. We emphasize integrity issues in which action is necessary to protect the government’s interests. When investigating wrongdoing, we seek to balance our efforts by protecting the privacy of those involved. We also seek to alleviate the burdens our efforts can create for others.

In developing fair, accurate, and timely products, we rely on verifiable documented evidence and use oral testimony as a secondary source of information. We identify and integrate the necessary disciplinary expertise to ensure the timely delivery of all of our office’s products; a balanced presentation of the administrative, scientific, financial, and legal aspects of the matter; and, over time, a consistent application of rules and expectations.

By implementing the practice of sharing our efficiency findings with management during the course of our efforts, we have been able to facilitate early corrective action. We also engage in outreach activities to facilitate constructive dialogue with our customers and stakeholders about our products and identify issues for which our assistance would be most useful.

Implementing New Outreach Activities

Our staff members are now assigned as liaisons to each major component of the agency. Our liaison staff meet regularly with division directors to discuss efficiency and integrity matters. In response to a suggestion, we began providing briefings on the contents of our Semiannual Report as a way of facilitating these relationships. This effort reinforced our view that partnerships can provide fresh, important perspectives. We continue to work closely with program officials in assessing the seriousness of integrity matters and in developing reasonable recommendations during efficiency reviews. NSF staff have sought our advice on matters about which they are concerned and have asked us to consider new review activities. We have coordinated our activities with NSF officials to a much greater extent than before and believe the results of the efficiency and integrity reviews described in this report reflect this coordination.

When planning and coordinating efficiency reviews, we worked closely with an Audit Coordination Committee that we established in conjunction with NSF management in the last semiannual period. With representation from NSF management and our office, the Committee facilitates constructive discussion on all audit and audit resolution issues and shares information and ideas on issues of mutual concern. The Committee's efforts have facilitated clear and open dialogue designed to promote effective and timely resolution of our audits and outstanding audit resolution issues. This report contains detailed descriptions of efficiency reviews that have benefited from the activities of this Committee.

We have reemphasized the value of seeking expert advice and guidance from NSF's scientific staff in our integrity efforts. NSF staff have continually provided us with excellent technical guidance and analysis on particular cases and have assisted our understanding of the norms and culture of the particular segment of the scientific community involved in a matter. These interactions between our staff and NSF staff have helped foster the partnerships we are building in a structured way through our outreach program.

In this period, we also met with staff in half of the agency's divisions to describe our mission, vision, and goals, and to seek feedback and suggestions about our activities. We participated for the first time in one of NSF's Regional Grants Conferences, and we have been invited to participate in several upcoming conferences to discuss our efficiency and integrity efforts.

Cultural Improvement

We are encouraged by the progress NSF and our staff have made in establishing a culture that views partnerships and inclusion as essential elements in the development of fair and reasonable solutions to matters under review. By operating within this constructive environment, we can continue to make measurable progress toward achieving strategic goals for our office and for NSF.

Contents

ACRONYMS

ACC	Audit Coordination Committee
CFO	Chief Financial Officer
DCIS	Defense Criminal Investigative Service
DoD	Department of Defense
FBI	Federal Bureau of Investigation
DOJ	Department of Justice
GRT	Graduate Research Traineeship
GSA	General Services Administration
HHS	Department of Health and Human Services
JKP	Japan and Korea Program
NASA	National Aeronautics and Space Administration
OMB	Office of Management and Budget
OPM	Office of Personnel Management
OPP	Office of Polar Programs
SBIR	Small Business Innovation Research
SPSE	South Pole Safety and Environmental
SPSM	South Pole Station Modernization
STTR	Small Business Technology Transfer
USAP	U.S. Antarctic Program
VTR	Vendor Training Request
Y2K	Year 2000

Reporting Requirements

Under the Inspector General Act, we report to Congress every 6 months about what we have been doing. In particular, we must discuss:

Reports issued, significant problems identified, the value of questioned costs and recommendations that funds be put to better use, and NSF's decision in response (or, if none, an explanation of why and a desired timetable for such a decision)	**1, 31**
Matters referred to prosecutors, and the resulting prosecutions and convictions	**15, 41**
With regard to previously reported recommendations: significant management decisions that were revised, and significant recommendations for which NSF has not completed its response	**39, 42**
Legislation and regulations that may affect the efficiency or integrity of NSF's programs	Not Applicable This Period
Whether we disagree with any significant decision by NSF management	None to Report This Period
Any matter in which the agency unreasonably refused to provide us with information or assistance	None to Report This Period

Efficiency

By conducting audits and inspections, we review agency operations as well as grants, contracts, and cooperative agreements funded by NSF. We conduct financial audits to determine whether costs claimed by awardees are allowable, reasonable, and properly allocated. Our audits also seek to identify practices that may be modified so that funds can be used for other purposes that our customers consider more important. We are also responsible for auditing NSF's financial statements, including evaluations of internal controls and data processing systems.

Inspections are multi-disciplinary reviews of financial, administrative, and programmatic operations that identify problems and also highlight what works well. Our inspections program is designed to assist managers at NSF and funded organizations improve operations and better achieve research and education goals.

HIGHLIGHTS

NSF's portfolio of investments are distributed across four key program functions: Administration and Management, Research Facilities, Education and Training, and Research Project Support. Our efficiency reviews cover these functions and significant reviews are described below.

Issues Involving Administration and Management

NSF Receives First Unqualified Audit Opinion on its Financial Statements

We completed our audit of NSF's agency-wide financial statements for FY 1998, in accordance with the Chief Financial Officers (CFO) and Government Management Reform Acts. In our opinion, NSF's balance sheet and related statements of net cost, changes in net position, budgeting resources, and financing were fairly presented, in all material respects, as of September 30, 1998. This is NSF's first unqualified audit opinion.

Our tests of compliance with laws and regulations that could have a material effect on the financial statements, including the Federal Financial Management Improvement Act, disclosed no instances of noncompliance. However, our consideration of NSF's internal control over financial reporting identified one reportable condition concerning property, plant, and equipment used in the U.S. Antarctic Program (USAP).

NSF, through a contractor, maintains research facilities in New Zealand and Antarctica where over 95 percent of NSF's capital assets reside. We found that the USAP contractor's accounting system did not adequately account for capital project or equipment costs. We recommended that NSF require the contractor to implement a system that properly and consistently values and classifies buildings, construction in progress, and capital projects as well as records the full costs of both real property and equipment in the proper accounting period.

NSF management agreed to require that its current contractor implement our recommendations, and we jointly reviewed the actions the contractor proposed for implementing these recommendations. Since NSF is currently recompeting its contract for managing the Antarctic Program beginning in FY 2000, we also worked with NSF management to ensure that NSF's request for proposals will require that any new contractor develop a system for inventory management and property accounting and control that is consistent with our audit recommendations.

Audit Coordination Committee

The recently established Audit Coordination Committee (ACC) played a valuable consulting role to both the Inspector General and the CFO in the preparation and audit of the FY 1998 financial statements. For example, during the current year audit, we determined that the property records held by the USAP's contractor did not document the value of a significant number of the property items. To address this problem, the ACC coordinated the procurement of a contractor's services to appraise the value of those items. In addition, by working through the ACC, a team of our auditors arranged to travel with NSF officials to New Zealand and Antarctica to conduct a physical inventory of the property. The material adjustments resulting from this extensive effort enabled us to substantiate the property and equipment balance presented on NSF's FY 1998 financial statements.

In addition to contributing to the financial statement audit, the ACC facilitated the discussion and resolution of recommendations on audits of awardee institutions. Discussions among ACC members highlighted significant audit issues and important details of the reviews. In some of the more difficult cases, further work was conducted in collaboration with NSF staff and the awardee to develop and analyze new material presented by the awardee.

The ACC coordinated significant refinements to NSF's audit follow-up procedures that were recently incorporated in NSF's Administrative Manual. The issuance formalizes the roles and responsibilities of the Inspector General, the CFO, and the ACC in the resolution and implementation of audit recommendations and requires that the ACC members regularly meet to exchange information on audit planning and the status of recommendations. This exchange enhances our mutual understanding of programmatic intent and administrative concerns that need to be evaluated. As a result, we expect continued improvement in the effectiveness of our audit program and report recommendations as well as in the timely resolution of audits.

Year 2000 Readiness

We participated in NSF's selection of a contractor to perform an independent verification and validation of the agency's progress in its Year 2000 (Y2K) readiness program. We reviewed NSF's quarterly progress reports to the Office of Management and Budget (OMB) and periodically met with the General Accounting Office, which is monitoring each agency's progress in becoming Y2K compliant. At NSF's request, we observed its contractor's testing of NSF's systems to understand and assess the overall reasonableness of the methodology and procedures used and to view the test results.

NSF reported that all mission critical systems are now Y2K compliant. Although we did not independently test NSF's systems, based on our review of the work performed by the agency's outside contractor in verifying the agency's progress, we are satisfied that NSF has taken all reasonable steps to ensure its systems are compliant.

Review of NSF's Vendor Training Request Process

NSF's Division of Human Resource Management asked us to review NSF's Vendor Training Request (VTR) process and to determine whether NSF's procedures and practices for procuring training services complied with Office of Personnel Management (OPM) and General Services Administration (GSA) guidelines. Under these guidelines, NSF established the VTR process in October 1996 to streamline its contracting and vendor payment procedures for group training services and to permit the training officer, rather than a contracting officer, to procure these services.

In general, we found that NSF's VTR procedures and practices complied with OPM and GSA guidance. In addition, by using the VTR process, NSF was able to reduce staff-hours required to contract with a vendor and improve the timeliness of processing of training requests. We identified a number of minor improvements to the VTR process, which NSF agreed to make.

Results Act Review Plan

We have started planning selective reviews of NSF's performance measurement system, focusing on measures that NSF management has identified as both being important to its own performance monitoring efforts and having the greatest risk of inaccuracy. Initially, we plan to concentrate on verifying the reliability of quantitative data supporting the measures. These reviews will assess the adequacy of the internal controls over the information generated by NSF's automated information system, and will also selectively compare the automated data to the source information in a sample of individual proposal and award files.

Because much of the data relevant to assessing NSF's performance originates with its awardees, we are working jointly with NSF management to develop a methodology for assessing the accuracy of data furnished by selected awardees. In addition to quantitative information, NSF is relying on Committees of Visitors to make qualitative judgments about many aspects of its performance. To generate better information on the results of its awards and to facilitate better informed performance assessments, NSF is developing and implementing a new final project reporting system. We plan to work closely with NSF management to help ensure that this reporting system provides credible data that are useful in evaluating the agency's performance.

Reviews Involving Facilities and Research Centers

Preaward Review of a Research Facility

We reviewed the reasonableness of a university's 5-year budget proposal for managing a large research facility (facility). In conjunction with this review, and at the invitation of NSF management, we also attended the university's panel presentation, which described the project, and we conducted an on-site visit of the facility. As a result, we identified opportunities to reduce the requested administrative costs associated with the project.

We identified several issues associated with the university's proposed overhead and administrative rates. For example, the proposed rates included: amounts for sabbatical leave benefits for which the majority of the facility's employees are not eligible, costs associated with tuition for employees' children that are no longer allowable under OMB guidelines, costs that were also budgeted as direct charges in the proposal, and costs that the university also included as part of its cost-sharing commitment.

In response to our draft report, the university submitted a revised proposal that reduced its budget for administrative costs by $2.4 million. However, because the university did not agree with all of our suggested budget revisions, we recommended that NSF refer the remaining issues to the Department of Health and Human Services (HHS). As the cognizant agency, HHS is responsible for negotiating administrative overhead rates with the university. These negotiations could also affect the amount of administrative costs applied to two other large NSF awards. Because HHS does not expect to complete negotiations until late in the spring of 1999, we cannot now quantify the monetary effect on these NSF awards.

The proposal also included annual salary increases for most facility employees that are not consistent with the university's proposed salary increases for other major NSF-funded programs. NSF officials agreed to use our findings in negotiating annual salary increases for the facility employees.

Review of Nonprofit Research Corporation

We conducted two reviews of an NSF-funded, nonprofit research corporation. First, we reviewed the corporation's methodologies for establishing administrative and overhead cost recoveries to help streamline the process and identify any potential savings. Second, we performed a vulnerability assessment of various financial operations of the corporation in an attempt to identify any weaknesses that might have a detrimental effect on NSF-funded projects.

While we did not find any significant deficiencies with the corporation's cost recovery system, we did find some opportunities for improvement. Our review identified costs that were improperly allocated to the various cost pools, and we found that the corporation could meet its submission deadlines by simplifying its processes and decreasing the review and approval time period. We recommended that the rate proposal process be simplified and formally documented. We also recommended that the corporation reconcile its proposal to its audited financial statements to assist NSF in its review and understanding of various cost pools.

We did not find any major problems with the corporation's financial control over administrative operations. However, our review identified two weaknesses associated with the corporation's financial policies and procedures, which the corporation's management took immediate actions to correct. The corporation's management responded quickly because of the close interactions between OIG, NSF personnel, and the corporation's staff, which helped ensure that the recommendations were realistic and focused on relevant activities. We analyzed the controls and incorporated the corporation's perspective and considerations, without sacrificing fairness or accuracy, in developing the recommendations.

Polar Program Reviews

Cost-Sharing Policy and Processes for Aircraft Maintenance Costs. When the Navy provided flight operations in support of the USAP, NSF's Office of Polar Programs (OPP) funded all costs associated with contractor-performed aircraft maintenance because flight operations were conducted solely to support the USAP and only NSF-owned aircraft were used. The New York Air National Guard (Guard) now provides flight operations on behalf of USAP. Because the Guard has other missions and operates both its own and NSF-owned aircraft, OPP and the Guard must share the associated maintenance costs.

Accordingly, OPP and the Guard developed a cost-sharing policy that is intended to equitably allocate costs depending on aircraft ownership and the type of maintenance to be performed. We reviewed the adequacy of the financial processes for implementing this cost-sharing policy, including procedures for capturing, tracking, and reporting labor and supply costs.

We determined that the existing processes did not adequately support the policy. For example, we found that OPP had not been reimbursed for some costs ($42,000) and had been billed for maintenance work that it had not agreed to fund ($66,000). In addition, the contractor uses some OPP-owned supplies to perform aircraft maintenance even though OPP pays the Guard a flight hour cost, which includes funding for the supplies.

We worked with the contractor and contract administrator to develop modified processes to address these issues. We recommended that OPP direct the contractor and contract administrator to implement the modified processes in order to ensure that each

organization pays its fair share of contractor-performed aircraft maintenance costs. OPP agreed to incorporate the modified processes into its maintenance contract.

South Pole Station Update. As described in our September 1998 Semiannual Report (page 9), OIG staff participate in quarterly reviews of the South Pole Safety and Environmental (SPSE) and Station Modernization (SPSM) programs. In addition, during this austral summer season, we conducted a site visit at the South Pole.

All design, engineering, procurement, transportation, and construction goals for the recently ended season were met and the two projects are currently within budget. The fuel storage component of the SPSE project is complete and the exterior shell of the garage is complete. All needed materials and staff are on site to complete the interior of the garage this winter. The third component of the SPSE project, the new power plant, is on schedule to begin construction at the start of the next fiscal year. SPSM construction, currently in a pre-construction phase, is scheduled to continue through FY 2005.

The quarterly reviews continue to focus attention on refining the procurement, transportation, and construction schedules for SPSE and SPSM. In response to accelerated funding for SPSM, provided in the FY 1999 budget, the review team and the contractor investigated the feasibility and desirability of accelerating procurement activities in order to reduce costs and purchase systems and materials that will be consistent throughout the entire station. It is expected that this action will lead to some savings in future operation and maintenance costs and provide savings opportunities associated with volume purchasing and procurement labor costs. The review team and the contractor have also determined that available resources will make it possible to complete the Dark Sector Lab 2 years earlier than scheduled. Although no direct dollar savings are associated with this change, the Dark Sector Lab is an important part of the research being conducted at the South Pole and completing it ahead of schedule will significantly benefit the science community.

Contracts for Overseas Aircraft Maintenance and USAP Logistics Support. We provided NSF management with information useful in negotiating two contracts supporting the USAP program. In response to a request from NSF's contracts office, we audited the fixed-price labor rate proposed by a New Zealand contractor to perform aircraft maintenance for the USAP. We concluded that the rate calculations and supporting data were presented fairly and the contracts office accepted the rate as proposed by the contractor.

NSF recently began its efforts to recompete a contract to provide operations, maintenance, and management to support the USAP. To assist the contracts office, we are verifying components of the business proposals submitted in response to NSF's solicitation.

The contracts office also asked for our assistance in verifying the proposing firms' indirect, fringe benefit and overhead rates, and government approval of business systems, including property and purchasing systems. We are working with the contracts office and the Defense Contract Audit Agency to verify the information requested and to assist the contracts

office in their evaluation of the rates and systems in the business proposals for this support of the USAP.

Audit Resolutions From Prior Facilities and Research Centers Reviews

State/Industry/University Cooperative Research Centers. In our September 1998 Semiannual Report (page 2), we summarized our reviews of three State/Industry/University Cooperative Research Centers. These reviews identified similar issues at each of the three Centers involving shortfalls in matching contributions and the accumulation of cash surpluses from industrial funds. In this reporting period, NSF management resolved two of the three Center audits.

We found that one Center misreported matching funds and incorrectly classified research activities. Of the $1.13 million of industrial matching contributions reported to NSF by the Center, only $372,000 was acceptable. As a result, the Center fell short of its second-year matching requirements by $217,000. Accordingly, as required by the cooperative agreement, we recommended that NSF reduce the Center's third-year funding by the latter amount. The university agreed with our audit finding and recommendation and NSF reduced the Center's third-year award. NSF also modified the cooperative agreement to establish additional management controls over the Center's operations.

We found that a second Center accumulated an $822,000 cash surplus from industrial contributions. We recommended that NSF ensure the cash surplus is used in furthering the project's objectives before providing additional NSF funding to the Center. During this period, NSF management reviewed and agreed to the Center's plans to disburse its remaining industrial funds before the NSF award's expiration date.

Nonprofit Oceanographic Organization. In our September 1998 Semiannual Report (page 7), we reported that a nonprofit oceanographic organization was proposing indirect cost and fringe benefit rates that were significantly higher than its actual rates. NSF concurred with the corrective action we recommended, and it should result in annual savings of more than $275,000.

Audits Involving Education and Human Resources Awards

State's Department of Education Agrees to Meet Cost-Sharing Requirements

NSF provided a western state department of education with two awards totaling $9.4 million to support mathematics and science education projects. The agreements provided that the department would share in the cost of the project by providing over $17 million from non-NSF sources. However, on one of the awards, we found that the department had provided less than half of the promised support and is still about $8.6 million short of meeting its cost-sharing requirement on this award.

The department asserted that in making its initial funding decision, NSF funded only about half of the amount requested in the proposal budget and had intended to reduce the department's cost-sharing obligation under the award by a comparable amount. Our review found that NSF did not intend to reduce the cost sharing when it reduced the amount of the award. On the contrary, NSF requested that the department increase its cost-sharing commitment to help compensate for the difference between the amount requested in the proposal and the amount awarded. In fact, the department had submitted a revised proposal that included the increased cost-sharing commitment.

After locating this revised proposal and discussing it with the department, the department acknowledged its cost-sharing commitment and agreed to satisfy the commitment in full. We recommended that NSF closely review the final cost-sharing amount claimed by the department to ensure that the requirement for this award is met.

Our review raised a separate but related issue that involved the source of the cost-sharing contributions. In submitting the proposals for both awards, the department indicated it planned to use other federal funding to satisfy part of its cost-sharing requirement. We found that NSF and the department clearly intended that other federal funding would be used to support the projects and had misclassified these amounts in the award documents as cost sharing. Accordingly, we recommended that NSF accept the other federal funds as co-funding, consistent with NSF's intent in making the award.

In addition to the cost-sharing problems, we found that the department overcharged $375,000 in indirect costs. While the awards provided funding for indirect costs at fixed, predetermined rates, the department applied higher rates. The department agreed to make adjustments to credit NSF for $354,000 of the excessive indirect cost charges. Through its audit resolution process, NSF continues to negotiate with the department regarding the remaining $21,000.

Audit Resolutions of Prior Education and Human Resources Reviews

Graduate Research Traineeship Program. In our March 1998 Semiannual Report (page 6), we summarized our review of NSF's Graduate Research Traineeship (GRT) program. We examined 49 GRT awards for compliance with the program's cost-sharing and citizenship requirements (trainees must be either U.S. citizens or permanent residents). We found that most GRT awardees were in compliance with both the program's cost-sharing and citizenship requirements. However, we identified a small number of trainees who were not U.S. citizens or permanent residents.

In this and a follow-up review, we recommended that NSF obtain refunds totaling $302,404, and make improvements to the GRT database and data collection system, which we believe will strengthen NSF's oversight of the program's citizenship requirements. In this period, NSF management agreed to obtain these refunds, and stated its intent to enhance the database and data collection strategies of the GRT and other applicable NSF programs to better capture citizenship information.

A State's Department of Education Must Adjust Claimed Costs. In our September 1998 Semiannual Report (page 5), we reported that a northeastern state department of education received a $9.7 million NSF Statewide Systemic Initiative award to improve the skills of students and the numbers and quality of individuals who pursue careers in science, mathematics, and technology. Based on our review, NSF agreed that $155,426 of the department's claimed costs were not reasonable or adequately supported, and required the department to eliminate these costs from its claim.

NSF Rejects School System's Expenditure Claims. In our March 1998 Semiannual Report (page 9), we reported that a large school system that received an NSF Urban Systemic Initiative award to support mathematics, science, and technology claimed $104,658 in unallowable and unsupported costs. We also found material weaknesses in the school's accounting system that could impair its ability to support salary costs and to share in project costs.

Based on these audit results, NSF required the school system to repay $48,793 of the unacceptable claimed costs and to offset the remaining $55,865 against unbilled costs. NSF decided not to continue the award because of awardee performance problems. Subsequently, the school system presented NSF with additional claims for unbilled project costs. Our review of these costs resulted in the school system's decision to withdraw its claim for reimbursement of the $482,951.

Funding Reduced to Nonprofit Association. In our March 1998 Semiannual Report (page 10), we summarized our review of an NSF award to develop a multimedia project by a nonprofit association. According to the association's original budget, NSF was to pay 44 percent of the project's cost and the association agreed to provide the remaining 56 percent. During our review, we found that the association requested additional funds from NSF,

although the estimated cost to complete the project had decreased. This resulted in a decrease in the association's cost-sharing commitment below the agreed upon 56 percent.

Accordingly, we recommended that NSF reduce the amount of its funding by $294,095, which includes $46,537 in unallowable costs. In this period, NSF management agreed with our recommendations noting that the reduction of NSF funds allows the government to share in the savings associated with a reduced budget.

Issues Involving Research Project Support

Among NSF's research-related awards were two made to a university and a corporation. We found that these organizations needed to improve their financial misconduct policies, their documentary support for cost sharing, and their grant accounting systems. We also questioned costs, including those costs to be funded by the grantee that were unallowable or unsupported.

Audit at a Northeastern University

In our March 1998 Semiannual Report (page 7), we described the results of an audit of a cooperative agreement awarded to establish and manage an industry forum for agile manufacturing, which was transferred from a northeastern university to its subsidiary. Because of the magnitude of the problems we found with the subsidiary's financial management of the award, we decided to audit the predecessor agreement with the university.

NSF entered into a $15.5 million cooperative agreement with the university in 1994 to develop a vision and address the current implementation status of agile manufacturing, identify needed changes in practices and related technology, and establish priorities for these changes. We audited $14.9 million in incurred costs and cost sharing claimed under the first 2 years of the project. We were unable to determine the reasonableness of over $800,000 claimed by the university for fixed-price consulting and subcontract agreements because the university did not require estimates of the hours expended in performing the services or compensation rates necessary to evaluate their reasonableness. We were also unable to determine the reasonableness of $1.8 million claimed as cost sharing that consisted of services donated by employees of other organizations for which the university did not require supporting timesheets and salary information. As a result, the audit reported a disclaimer of opinion on the university's schedule of claimed costs and identified a material weakness in internal controls pertaining to this lack of supporting documentation.

For the costs that were documented, we questioned an additional $452,619. Examples include unsupported travel expenses claimed by third-party organizations, consultants paid in excess of the maximum NSF daily rate, and unsupported car rental costs.

The university reviewed a draft of our audit report and responded that it believes all costs charged to the award are valid. NSF is currently working with the university to resolve these issues.

Japan and Korea Program and Tokyo Office Inspection

We inspected NSF's Tokyo Office and its managing program, the Division of International Programs' Japan and Korea Program (JKP). The primary function of the Tokyo Office is to serve as a programmatic liaison among NSF, the U.S. researchers it supports to work in Japan, and the Japanese government agencies that provide financial and administrative support for visiting U.S. researchers. The Office also helps visiting NSF officials make productive contacts, supplies timely information about Japanese science and science policy, and represents NSF and the U.S. government in negotiations and meetings with Japanese scientists and government officials. Having an office in Tokyo helps NSF to leverage Japanese financial and administrative contributions to programs that benefit NSF and the U.S. research and education community.

We found that JKP activities were generally consistent with NSF's strategic goals. Coordination between NSF and other federal agencies concerned with Japanese science enhanced the effectiveness of these activities and prevented duplication of effort. NSF officials were working to reduce shortfalls in applicants for available slots in NSF-administered exchange programs. We also discussed certain strategic issues NSF faces in managing the Tokyo Office, including how to balance regional and Japan-specific responsibilities.

We made recommendations to NSF management for improvements in financial operations related to the Tokyo Office. These recommendations included making provision for NSF's unfunded liability for retirement obligations for Japanese employees who work in the Tokyo Office, reviewing and documenting the need for the petty cash fund that the Office maintains, and providing appropriate guidance so that funds in two Japan-related donation accounts can be properly expended. NSF said it found our recommendations useful and was taking action on all of them. It agreed that the unfunded liability needed specific action and that better procedures for managing the petty cash fund would be helpful. NSF officials are developing plans to spend the remaining funds in the donation accounts.

A University Department of Earth and Planetary Sciences Inspection

We reviewed programmatic, administrative, and financial aspects of eight grants awarded to a university Department of Earth and Planetary Sciences.

We were favorably impressed by the research facilities and positive research atmosphere we observed in the Department. PIs and students we visited interacted closely on NSF-supported research. PIs expressed confidence in NSF's peer review process, and PIs, administrators, and NSF program officers said that FastLane, NSF's integrated electronic proposal and award system, made it easier for them to review proposals, obtain information

about NSF, and submit proposals and project reports. Although some had some difficulties with FastLane, all expressed confidence that these would be eliminated as the system is refined.

We made a few recommendations for improvement. For example, we recommended that the university should develop and publish a policy for the retention of and access to federally funded research data, and the university should specify a standard of proof for its misconduct policy. The university agreed with these recommendations and stated our report was "quite helpful to the University."

Audit of a Northwest Information Technology Corporation

NSF's Networking and Communication Research and Infrastructure Division awarded two grants, totaling $1,063,039, to a northwest corporation to expand a network for supercomputer users. We performed a financial and compliance audit of these awards and questioned 18 percent (or $193,418) of the costs claimed by the corporation.

The incorrect calculation and application of fringe benefit rates and indirect cost rates accounted for $99,739 of the costs questioned. We also questioned $41,201 related to salaries that were charged to NSF grants as both direct and indirect costs. Of the remaining questioned costs, most were not supported by time sheets or other source documentation. We also found that the corporation accounted for all NSF grants in a single fund, which made it more difficult to reconcile and support costs for each individual grant.

The corporation has begun to implement our recommendations to improve its internal control system and is refunding to NSF all of the $191,347 in questioned costs.

Summary of Other Significant Audits of NSF Awards

During this reporting period, in addition to the reports explained above, we completed 13 financial and compliance audits covering education, human resources, and research awards totaling more than $59 million. The institutions audited ranged from public organizations, such as universities, local school districts, and state departments of education, to private organizations, such as museums and small research institutes.

These audits identified a total of $1,046,033 of questioned direct costs and $647,391 of cost-sharing contributions questioned. We also found $3,835,226 in cost-sharing commitments that may not be satisfied by the institutions. Many of the institutions have responded favorably to our audits by implementing our recommendations and refunding the questioned costs. Some of the more significant findings from these audits follow:

- A Midwestern museum charged $209,677 in salaries, fringe benefits, equipment, supplies, and related indirect costs to the awards after the projects were substantially completed, thereby indicating that the expenses were not necessary or reasonable.

- A southeastern university, whose $350,000 award had expired, was unable to adequately justify the need to use the unspent $40,687. Accordingly, NSF closed the award and deobligated the funds to preclude the university from charging further unrelated costs to the award.

- Four awardees used funds totaling $162,072 that had been specifically awarded for participant support for unauthorized purposes.

Review of Awardee A-133 Audit Reports

OMB Circular A-133, issued pursuant to the Single Audit Act of 1984, sets forth standards for obtaining consistency and uniformity among federal agencies for the audit of states, local governments, and nonprofit organizations expending federal awards. Reports prepared by independent auditors in accordance with this circular are referred to as A-133 audit reports.

We reviewed 97 A-133 audit reports for not-for-profit and for-profit institutions for the fiscal year ended September 1998. Included in these A-133 audits were 1,047 NSF awards, totaling $189,742,153, from every NSF directorate.

The audits disclosed that institutions generally complied with the terms of the awards and have adequate financial controls and procedures. The auditors did, however, find a small amount of questioned costs, $142,632, and some internal control and compliance issues. Examples of questioned costs include: consultant payments made in excess of the maximum allowable rate, fellowship payments made in excess of the amount allowed by NSF policy, travel costs not supported by documentation, and the costs of firm fixed-price awards charged to a cost reimbursable award.

Some audit reports also cited internal control findings. For example, some awardees did not (1) adequately monitor subrecipients, (2) develop plans to ensure Y2K computer compliance, (3) adequately review and document costs incurred, and (4) adequately segregate accounting duties. The primary compliance findings were that some awardees failed to submit timely, required federal performance and financial reports and that procurement and property management systems of several awardees were not in compliance with federal regulations.

Integrity

We are responsible for investigating possible wrongdoing involving organizations or individuals that receive awards from, conduct business with, or work for NSF. In investigating these allegations we assess their seriousness and recommend proportionate action. When appropriate, the results of these investigations are referred to the Department of Justice or other prosecutorial authorities for criminal prosecution or civil litigation, or to NSF for administrative resolution.

Among our responsibilities are investigating allegations of misconduct in science, engineering, and education, such as falsification, fabrication, and plagiarism. Misconduct in science strikes at the core of NSF's mission, and it is a special concern for our Office. In investigating these allegations, we

- evaluate scientists' conduct according to the ethical standards of their professional communities' accepted practices,
- rely on the professional community at NSF and awardee institutions to articulate and evaluate these standards, and
- recommend findings of misconduct in science only for "serious deviations" from those standards.

HIGHLIGHTS

FORMING INVESTIGATIVE PARTNERSHIPS TO RESOLVE CASES

Our November 1998 Strategic Plan emphasizes the importance of forming partnerships through our integrity efforts with members of the scientific and law enforcement communities. By working closely with our partners, everyone benefits from sharing experience and different perspectives and opinions. We apply the understandings we gain in the particular matter under review and in subsequent cases.

In civil and criminal matters we often work with awardee grants officials gathering information necessary to determine whether a matter appears to have violated a law or regulation. In instances where these matters involve individuals who have funding from other federal agencies, we work closely with staff from other IG offices as well as the Federal Bureau of Investigations (FBI), Defense Criminal Investigative Service (DCIS), and other law enforcement organizations. Once we have developed sufficient information to advise prosecutorial decisions about whether to pursue a case, we assist prosecutorial authorities in completing the investigation. For example, in this report, we describe two false claims cases in which we coordinated our efforts closely with university officials and law enforcement agencies to assist prosecutorial authorities in developing satisfactory resolutions to these matters (see pages 21 and 22). We also served as a liaison between local law enforcement officials and scientific personnel to improve working relationships and enhance security at an NSF-funded facility.

Through the process of resolving allegations of misconduct in science, we have developed strong, long-standing partnerships with awardee officials and NSF program officers across the scientific disciplines. NSF believes that awardee institutions are primarily responsible for the prevention and detection of misconduct, and our practice is to refer substantive allegations of misconduct in science to awardees for investigation. In this partnership, we contribute the experience gained from handling different types of allegations in many situations while relying on the experience and knowledge of awardee officials as well as the committees of experts they convene to assess these cases. We also frequently draw on the scientific expertise at NSF to assess scientific issues and provide us with insight concerning their scientific communities.

In this period, we met with awardee officials who were either beginning or in the process of conducting misconduct investigations. We worked closely with awardee officials and committees to develop satisfactory resolutions for our referred cases. The following misconduct cases describe successful outcomes that were developed through these partnerships.

SUMMARY OF REFERRALS TO AGENCY MANAGEMENT FOR ADJUDICATION

Plagiarism in Proposals Submitted to Two Different NSF Directorates

We received evidence of plagiarism in two NSF proposals submitted by a full professor to different NSF directorates about 2 months apart. The first proposal, requesting support for travel to another country to do research, was a pending award. The second proposal, requesting more substantial funds to support research work at the subject's university, had recently been declined. Over 90 percent of the text in both proposals was identical to an earlier NSF-funded proposal (the source proposal) submitted by another scientist (the author).

Although the subject had over 30 years of experience as a researcher and teacher, he did not indicate that the language of his proposals was taken from the source proposal and was not his original work. In our interview with the subject, he explained that he believed he had implicit permission from the author to use the text because they had been collaborators and the author had voluntarily provided him with a copy of the source proposal. The author told us that he had not given the subject permission to copy the text from the proposal and could not recall providing him with a copy.

We referred the investigation in this case to the subject's university. Immediately following our referral, we recommended, and NSF took, interim administrative action to defer a funding decision on the subject's first proposal pending resolution of the allegations of misconduct in science.

The university decided that the author was not a collaborator on the subject's proposals and that the copied text was not shared intellectual property. It found that the subject's use of verbatim material in his two proposals constituted plagiarism and that the subject acted recklessly.

The university sent the subject a letter of reprimand requiring that he: (1) not submit federal or state proposals and not serve as a PI on federal or state awards for 3 years, (2) withdraw his pending proposal that requested $12,192, (3) certify to the originality of any external proposals for an additional 2 years, and (4) read materials and attend workshops/meetings on the topic of integrity in research.

We concluded that the university's action regarding the subject's misconduct was significant and balanced. We recommended that NSF's interests would be served sufficiently by affirming that the subject committed misconduct in science and by sending him a letter of reprimand.

Multiple Allegations of Plagiarism in Connection With NSF Proposals

We received allegations of plagiarism against the subject, an assistant professor, including one instance in which he copied 5-1/2 pages of material into an NSF proposal without providing adequate attribution. In each instance, the subject included general references to the source material, but did not indicate that the text was taken verbatim from the source material. Through our inquiry, we discovered that the subject submitted five NSF proposals that contained material copied without adequate attribution.

We referred the investigation to the subject's university. The university's investigative process identified other instances of unattributed copying in the five proposals discovered by our office and in three more proposals submitted by the subject to NSF and another federal agency. The university determined that the subject submitted eight proposals with inadequately attributed text; in four, the copying was limited to several sentences from abstracts. Four of the eight proposals were slight revisions of earlier proposals.

The university concluded that each instance of copying without adequate attribution was plagiarism, and therefore misconduct in science. Although the copied passages varied in length, the university considered each instance to be a significant deviation from accepted practices. After receiving the university's investigation report, the subject agreed to resign from his university position.

We agreed with the university that the subject committed misconduct in science. For NSF's purposes, we considered the instance involving 5-1/2 pages of copying without adequate attribution to be plagiarism and the other instances as reflecting a pattern of unacceptable behavior. We recommended that NSF send the subject a letter of reprimand concluding that he committed misconduct in science and require him to provide certifications and assurances in connection with any requests for NSF funding for 3 years. Since some of the eight proposals were submitted to other agencies, we suggested that NSF discuss its conclusions with other federal agencies. We concluded that the university's actions were otherwise sufficient to protect NSF's interests.

Deputy Director Concludes PI's Misrepresentations are Misconduct

In our September 1997 Semiannual Report (pages 36-37), we described our investigation into allegations that a professor had misrepresented his research progress and capabilities in proposals and progress reports submitted to NSF. The Deputy Director concluded that the PI's misrepresentations "constituted falsification and a serious deviation from accepted practices within the scientific community" and misconduct in science. The Deputy Director determined that the subject's misrepresentation was a "critical aspect of his research" and that he would not have been awarded the level of support he received in its absence.

The Deputy Director decided upon remedial actions. For the next 2 years, in connection with any proposal or report submitted to NSF, the subject must provide our office with specific certifications as well as assurances from his department chairperson or dean. He must certify and the administration official must ensure (to the best of his or her knowledge) that the submission accurately reflects the subject's research status and results, and that the status, results, and the subject's claims about his research capabilities are supported by appropriate documentation. Additionally, with each submission, the subject must certify that he has reviewed NSF's misconduct regulation and that the submission is free of any misconduct, and the administration official must ensure that the submission does not contain any falsification or fabrication.

NSF Concludes Graduate Student Fabricated Data

In our September 1998 Semiannual Report (page 16), we described a case in which a graduate student had received a doctorate in chemistry on the basis of a dissertation that was "based on fraudulent data." In agreeing with our recommended findings, NSF's Deputy Director concluded that the graduate student "deliberately fabricated the data by cutting and pasting spectra," a serious deviation from accepted practices and misconduct in science. In his reprimand, he concluded that "[r]esearch fabrication is a serious offense because it distorts the scientific record. The scientific record is the foundation for all scientific research." Consistent with our recommendations, he took no further action to protect the federal government's interest because the university had taken numerous steps to address the misconduct and the student has not worked in chemistry since she forfeited her degree.

Improper Use of Graduate Students' Theses is Misconduct

In our September 1998 Semiannual Report (page 38), we discussed a case of a faculty advisor who, on two separate occasions, plagiarized materials from his graduate students' Master's theses into two of his publications without providing them authorship credit or appropriately citing the theses. The university's investigation committee found that the subject had seriously deviated from accepted practices when he failed to provide authorship credit to the students. The committee stated that the subject's own department considered providing a

student with co-authorship credit on such papers as accepted practice in the scientific community.

NSF's Deputy Director concurred with the committee and us that the subject's use of "two students' [Master's] theses without providing them appropriate credit is a serious deviation from accepted practices within the scientific community and that [the subject] engaged in misconduct in science." The Deputy Director reprimanded the subject and expressed "strong disapproval of [the subject's] conduct in this matter," and informed him that "[a]ny repeat occurrence of misconduct in science in connection with NSF-funded activities could result in NSF taking more severe action." This action was consistent with our recommendations.

NSF Concludes a Subject Committed Plagiarism in SBIR Proposal

In our March 1998 Semiannual Report (pages 27-28), we discussed the case of a subject who, as president of a small business, was alleged to have plagiarized material from a published paper into his NSF Small Business Innovation Research (SBIR) proposal. We concluded that the subject plagiarized ideas, text, formulas, figures, and references from three published papers. Consistent with our recommendations, NSF's Deputy Director sent the subject a letter of reprimand concluding that he committed misconduct in science, imposed a certification requirement, and excluded the subject from serving as a reviewer for 3 years.

NSF Reprimands Student Who Committed Fabrication and Falsification

In our September 1998 Semiannual Report (page 17), we described the Deputy Director's conclusion that an undergraduate student committed misconduct in science by fabricating data and falsifying timecards over an 11-month period in two different laboratories. The Deputy Director proposed to debar the student, who in response cited several reasons why she should not be debarred. NSF concluded that the evidence did not support most of the student's claims. However, it concluded that debarment was unnecessary because the student was an undergraduate who had already suffered severe consequences for her misconduct, and she was neither pursuing a career in science nor planning to work in a federally funded laboratory. NSF issued a strong letter of reprimand explaining why the student's claims and excuses were not credible and concluded that she had committed "severe" misconduct.

SUMMARY OF REFERRALS TO PROSECUTORIAL AUTHORITIES

University Professor Pleads Guilty to Abuse of Official Capacity

A coordinated state and federal investigation, led by our office, resulted in a guilty plea by a professor of computer science. The professor was PI and co-PI on research awards from NSF as well as other federal, state, and private grant-making entities. We led the investigative team that included FBI and DCIS agents. During our investigation, we worked closely with university internal auditors, who conducted their own internal review of the professor's activities. We found that the professor routinely charged expenses directly related to his private businesses to research accounts at the university. The professor did not disclose his outside business interests to the university as required and made affirmative statements to conceal these business interests. In February 1998, a state grand jury indicted the professor on Abuse of Official Capacity for using government money, which the professor had through his employment at the state university and as a public servant, to support his private businesses.

In November 1998, the professor pled guilty to 28 acts of Abuse of Official Capacity. The state court ordered him to pay a $5,000 fine and restitution of $38,000 and to serve a 5-year probation with deferred adjudication. If the professor successfully serves the 5-year probation, he can request that the conviction be expunged from his record. In conjunction with the state's plea agreement, the U.S. Attorney's Office agreed not to prosecute the professor for federal offenses arising out of his activities.

One of the professor's companies submitted proposals and obtained federal research awards through the SBIR programs administered by NSF and the Department of Defense (DoD). Based on the indictment, DoD suspended the professor and his companies from eligibility for federal grants and contracts, and it terminated a pending $750,000 SBIR award to the company. As a result of the guilty plea, DoD proposed debarment of the professor and his companies for 5 years.

The university found that the professor had wrongfully charged an NSF grant for salary and fringe benefits, telephone charges, miscellaneous charges, and indirect costs. The university returned $100,349 to the NSF grant to fund continued research by the other PIs. The university also returned $60,582 of unspent funds on another NSF award that expired during the investigation. The university and a state agency terminated a $235,000 state grant because the professor did not disclose that the $170,000 in matching industrial support pledged for the project was from one of the professor's own companies. The university initiated proceedings to terminate the professor's employment and, in March 1999, a university faculty senate committee determined that the evidence supported termination.

Director of NSF-Funded Research Center Sentenced for Falsifying Reports to NSF

In November 1998, a professor of engineering who served as the director of an NSF-funded research center pled guilty to a misdemeanor violation of 18 U.S.C. § 1003, *Demands Against the United States*, for using false statements to obtain money from the United States. After being informed of a university investigation, we worked with the university and the FBI and found that the director overstated the number of industrial members in annual reports to NSF by nearly 50 percent. The largest misrepresentations occurred during the crucial sixth-year review of the center, when NSF determines whether to continue or to phase out NSF support for the center. NSF officials, who had awarded over $23 million to the center since its inception, advised us that these misrepresentations of membership would have influenced NSF's reviews of the center and its eligibility for future funding and could have affected NSF's decision to fund the center.

During our investigation, the center director resigned from his position with the center but maintained his position as a professor at the university. In addition, NSF program staff conducted a site visit to the center and decided to reduce funding for the center the following year and terminate it thereafter—thereby allowing NSF program managers to allocate approximately $3.2 million to other research centers.

In January 1999, the former center director was sentenced to serve a 3-month imprisonment followed by a 1-year, supervised probation, and to pay a $10,000 fine. We worked with NSF management, the U.S. Attorney's office, and defense counsel to develop a plea agreement that limited the former center director's receipt of assistance and benefits under federal programs and activities for 3 years.

In addition to the activities of the former center director, we found that the project administrator instructed two employees to overstate their hours to receive additional pay, which led to improper payroll charges of $9,513. The Department of Justice (DOJ) declined criminal prosecution of the project administrator because: (1) the institution had returned the improper charges to the NSF grant, leaving no financial loss to NSF; (2) the project administrator did not gain financially from the improper charges; and (3) the institution had taken administrative action against the administrator, which included a reprimand and a demotion.

Company Pays $75,000 in Civil Settlement Involving SBIR Award

A company received an initial $49,032 SBIR award from NSF. We found that the company president was ineligible to be the PI on the award because he was a full-time employee at a university during most of the award period. In addition, the company president presented research results in the SBIR final technical report as having been obtained under the NSF SBIR award, when in fact the data had been obtained before the NSF SBIR award was made. In a civil settlement with DOJ, the company paid $75,000 to resolve this matter.

Combined Integrity and Efficiency Reviews

While our investigative efforts focus on resolving integrity issues that generally involve particular NSF awards, some cases or complaints raise issues that require us to review systemic issues or issues about the efficient expenditure of funds under NSF awards. We create multidisciplinary teams of integrity and efficiency staff members who work closely with NSF management to review these matters and make recommendations designed to improve programs and operations. In this period, we completed combined integrity and efficiency reviews involving: certain aspects of the SBIR program, a retraining program, and the application of eligibility criteria for an NSF program.

Size and Commercialization Information are Important for NSF's Small Business Program

The Small Business Administration's regulations limit businesses that participate in the SBIR and Small Business Technology Transfer (STTR) programs to a maximum of 500 employees, including the employees of affiliated businesses that control or are controlled by the applicant company. We found that six of the seven companies we reviewed had received more than $3 million from NSF affiliates. Few of these applicant companies clearly revealed their affiliates in proposals to NSF. In two instances, applicant companies did not disclose affiliations that could make them ineligible to participate in the SBIR/STTR programs. For example, one applicant company had become a subsidiary of a large parent-holding company, yet the subsidiary reported to NSF that it employed only 20 people.

Failure to reveal affiliates distorts the merit review process for selecting SBIR awards and also masks possible ineligibility. Accordingly, we recommended and NSF agreed to require applicant companies to disclose the names of all affiliated businesses and to report the total number of the company's employees and its affiliates. Pursuant to our request, the Small Business Administration is carrying out the formal size determination on two companies that we identified because their extensive corporate affiliations may exceed the size limitation for a small business.

We also reviewed the effects of affiliates on NSF's assessment of a company's commercialization track record, an important factor in deciding whether to make an award. In order for NSF to assess past commercialization, companies are required to provide information about "follow-on funding" and the sales of SBIR-developed technologies. Our review indicated that NSF would have a better basis for assessing commercial potential if companies provided a breakdown of the sources of follow-on funding and sales. Accordingly, we recommended that NSF require applicants to distinguish follow-on funding and sales originating from the applicant company, affiliates, and unaffiliated companies. NSF is considering how to best implement this recommendation in future program solicitations.

Review of Financial Expenditures Under Fixed-Price SBIR Phase II Awards

In 1994, NSF began issuing SBIR Phase II awards in fixed-price amounts. NSF makes periodic payments based on progress reports and a final report from the awardee that addresses technical progress and provides estimates of funds expended. We used desk reviews to evaluate the first three sets of semiannual reports provided by Phase II awardees under the fixed-price funding mechanism to ascertain overall compliance with reporting requirements and review procedures. We did not endeavor to review the overall quality of NSF's technical or administrative oversight of SBIR Phase II awards.

We found that the estimated expenditures reported by about half the awardees were less than the final NSF award amount, and that six of these were significantly less. An on-site financial review of two of these awards disclosed profit margins that significantly exceeded the negotiated margins.

We used our review's results on the first round of awards to work with NSF in developing our recommendations, and NSF agreed to implement them. NSF managers will ensure that Phase II awardees' reports are used to determine when estimated expenditures fall behind budget amounts by a significant percentage. NSF also agreed to establish a common and consistent approach to determine whether funds are significantly underspent at the time the request for final payment is made. In appropriate circumstances, NSF managers will also re-negotiate the award amount or adjust the timing of progress or final payments.

Failure to Meet Award Objectives Results in Reduced Project Costs

In 1994, NSF awarded $550,000 to a university to provide partial support for a 3-year program developed by another agency, which was designed to retrain displaced defense engineers in the environmental engineering field. In addition to classroom instruction, the program aimed to provide the engineers with career development skills and on-the-job training. The university agreed to provide $583,507 in cost sharing from industry and university sources to support the project. The university originally anticipated that the majority of the industry funds would be provided in support of an "externship" program in which the participants would be paid while receiving on-the-job training (working for the industrial participants).

Acting upon a referral from an NSF program officer, we conducted a review of this award. We found that while the program's academic objectives were substantially met, the externship program did not meet NSF expectations. Specifically, the PIs encountered difficulty obtaining suitable externships for the program's participants, and they neither took corrective action nor fully notified NSF of these difficulties. We also found that the university had not maintained documentation to support cost sharing. A majority of the proposed cost sharing was to come from industrial support for the externships. Efforts to collect cost-sharing information were made only after NSF grant officials cautioned university officials that their inability to document their claims could result in an audit.

With the advice and assistance of NSF program officers, we reviewed financial records to determine the total cost of the project. We found that of the $527,240 claimed as cost sharing, only $218,382 was both supported and related to the project objectives. We believe that if paid industry externships had been provided as proposed, the cost-sharing obligation would have been met. Consistent with requirements for the award, NSF agreed to pay only 49 percent of the project costs. Therefore, the total charge to NSF should have been $145,351 less than the actual amount charged.

Although the university did not maintain cost-sharing documentation and did not satisfy its cost-sharing obligation, it submitted signed cost-sharing certifications and annual progress reports with tables listing larger than actual cost-sharing amounts contributed for the year. Because the evidence we found indicated that these certifications and reports were false, we referred our findings to the cognizant U.S. Attorney's Office, which declined to prosecute because of the lack of evidence of personal financial benefit to any of the individuals who prepared the reports or certifications.

We concluded that the university's failure to meet the award's externship objectives led to a substantial shortfall in cost sharing, and the university should repay NSF $145,351, the excess federal contribution to the project. We recommended that the university develop a cost-sharing policy that will help ensure that it meets cost-sharing requirements and provides accurate reports and certifications in the future. We also recommended that NSF review and approve the university's policies before making any future awards that require cost sharing. NSF agreed with our recommendations and is currently addressing them through the audit resolution process.

Application of Selection Criteria for Eligibility for an NSF Program

After receiving a complaint that a university was eligible to apply for an award but had been excluded from the competition, we reviewed the selection criteria for an NSF program that made awards to universities that demonstrate excellence in research and education. The research and education program, which in 1997 granted awards to 10 of 137 eligible institutions, focused on institutions with strong graduate programs in both research and education. We learned that one branch of the university was not included in the eligibility list because it had conferred very few doctorates. Another branch was not included because it received little federal research funding. We found that NSF's selection criteria were reasonable, and that the omission of this university from the eligibility list was consistent with the program's focus on research-intensive universities.

Overview of Integrity Matters Processed This Period

During this period, we closed 63 integrity cases. Of these, we considered 30 to involve civil or criminal matters and 33 to involve administrative matters, including misconduct in science.

We focus our criminal and civil investigative resources on allegations of intentional diversion of NSF funds and material false statements in information submitted to NSF. Intentional diversion of NSF funds for personal use is a criminal act, which can be prosecuted under several statutes. Investigation of diversion allegations is a priority for our office. We encourage awardees to notify NSF of any significant problems relating to the misuse of NSF funds. Early notification of significant problems increases our ability to investigate the diversion of grant funds. Further, NSF's peer review process is premised on the truthfulness of information submitted to NSF in proposals and progress reports. A material false statement in an NSF proposal could result in funds being improperly awarded, and if sufficiently serious can be considered a violation of civil or criminal law.

Our investigative case activity this period is in the statistical data section, see page 31. In addition to closing 30 cases involving alleged civil or criminal matters after a review of the relevant facts, we referred two new matters to DOJ involving allegations that individuals received grant funds by submitting false statements. We are currently working with DOJ to resolve one of the new referrals. The other matter involved an SBIR awardee that received duplicate funding from NSF and the National Aeronautics and Space Administration. This matter was declined by DOJ because the subject of the investigation is incarcerated in a foreign country for fraud. The National Aeronautics and Space Administration initiated administrative proceedings to prevent the subject from obtaining federal funding should he return to the United States.

We also worked with DOJ to resolve three cases that we referred in previous reporting periods, as well as two cases filed under the *qui tam* provisions of the civil False Claims Act (which allows a private citizen to file a complaint for fraud perpetrated against the federal government). DOJ proceeded to file its own complaint in one *qui tam* matter that involved a multi-agency investigation of a government contractor. We worked with NSF staff and DOJ to determine that the other *qui tam* matter does not primarily implicate the interests of NSF, although the matter is still pending (regarding alleged claims made to another agency).

Our misconduct case activity this period is in the statistical data section, see page 31. We referred the inquiry or investigation in three cases to awardee institutions. Through the referral process, institution committees reviewed eight cases. We closed 33 cases this period. Of these, 21 were closed after a misconduct inquiry and 12 were determined to be management concerns and not issues for our office.

Although several of the 21 cases contained multiple allegations of misconduct in science, each can be described by a single primary allegation. The primary allegations include intellectual theft (six cases), verbatim plagiarism (five cases), abuse of a colleague or graduate student (two cases), breach of confidentiality of peer review (two cases), failure to share data (two cases), duplicate submission of a proposal (two cases), retaliation against a good-faith whistleblower (one case), and misrepresentation in a proposal (one case). For those cases closed at the inquiry stage, 10 were closed after we obtained information from the subject.

University Procedures Should Be Fair and Efficacious

The importance of fair and efficient procedures by awardee institutions is illustrated by two cases we closed this period in which the awardee institution conducted unnecessary procedures. At NSF and many of its awardee institutions, misconduct cases are handled in a two-stage investigative process. An inquiry determines whether an allegation of misconduct has substance and requires investigation, and an investigation thoroughly and carefully assembles the relevant facts.

Some awardee institutions have introduced an additional pre-inquiry stage that appears to duplicate the inquiry function. In two cases closed this period, the pre-inquiries developed ample information for university administrators to determine whether the allegations had substance, and university administrators worked effectively with us to address matters of shared concern. In these cases, we believe a further "inquiry" would have been superfluous. In one case, a committee of three faculty members reached its conclusion after examining hundreds of pages of documents; in the other, the university's misconduct official interviewed seven witnesses and examined departmental work and financial records. In our view, the procedures employed in each of these cases amounted to an inquiry and the conclusion should have been a decision about whether the case required an investigation.

We found during numerous inspections and cases that many awardee institutions' misconduct procedures require that the institution perform an inquiry even when we have already conducted an inquiry and referred the case to them for investigation. Where an investigation will be conducted in any event, for our purposes, this second inquiry is a redundant, time-consuming effort. We suggest that institutions consider reviewing the evidence of our inquiries and moving directly to an investigation instead of conducting their own inquiries.

It is in everyone's interest—subjects, complainants, awardee institutions, and the federal government—to resolve misconduct cases efficiently and thoroughly. This can best be accomplished through procedures that yield expeditious decisions about whether allegations have substance and require investigation.

When Collaborative Relationships Break Down

We handled three cases during this period involving collaborative relationships. We found that each case resulted from errors in communication and judgment, and none was so serious as to rise to the level of misconduct in science.

In the first case, a university informed us that it had informally handled an allegation that a PI had included material in a sole-authored proposal to NSF that he plagiarized from a manuscript prepared collaboratively by him and others. The PI made unattributed use of material and ideas from the collaborative manuscript for which he was a major contributor and primary author. His department informally concluded that his actions constituted plagiarism without explicitly assessing how serious they were. The PI, given the option by his department to acknowledge misconduct and agree to administrative actions, had chosen to do so instead of undergoing a formal investigation. Based on our experience, we concluded that the PI's actions, while reflecting inappropriate behavior based on the extant standards in his department, were not sufficiently serious to be considered misconduct in science at the federal level.

In the second case, two scientists allegedly misappropriated confidential material from a research team with which they were collaborating and published it as independent research. We determined that there was no confidentiality agreement between the scientists and the research team. In addition, after evaluating the expertise of the parties and the timing of their research findings, we determined that the published work was an independent effort that was contiguous with earlier work done by the two scientists and that its main ideas were not misappropriated from the research team. However, we concluded that the two scientists could have avoided these allegations if they had agreed with their collaborators at the outset of the project how results would be shared and published and what independent uses could be made of joint work.

In the third case, the complainant alleged that the department chair (the subject) copied text without attribution from the complainant's earlier NSF proposal into an NSF proposal to purchase equipment to support curriculum development. The subject had requested faculty members who wanted to participate in the project to provide written descriptions of their intended use of the equipment in their courses and research. The complainant provided text from her earlier NSF proposal as her contribution. The subject explained that she used all the faculty members' contributions to the proposal, unedited, with no attribution. The subject said the complainant knew the subject's proposal was a departmental one. The complainant, however, said she did not know the subject would use the text verbatim without attribution and submit the proposal without her being included as co-PI. We concluded that NSF and its reviewers would ordinarily recognize that this type of proposal represents a departmental effort, including contributions from individuals other than the PI. Under these circumstances, we concluded that the use of the complainant's verbatim text without attribution in the subject's proposal did not constitute plagiarism.

There are no universal or accepted norms that govern behavior between collaborators. Collaborative disputes are often brought to our attention as allegations of misconduct in science when the participants fail to have a clear understanding of their rights and responsibilities before the work commences. These cases in particular highlight the importance of clear and timely communications in collaborative projects about expectations of confidentiality, authorship rights to results, and the rights to use collaboratively obtained information in future funding requests.

Statistical Data

AUDIT REPORTS ISSUED WITH RECOMMENDATIONS FOR BETTER USE OF FUNDS

		Dollar Value
A.	For which no management decision has been made by the commencement of the reporting period	6,540,411
B.	Recommendations that were issued during the reporting period (these were issued in 5 reports)	3,106,544
C.	Adjustments related to prior recommendations	200,000
Subtotal of A+B+C		**9,846,955**
D.	For which a management decision was made during the reporting period	6,288,598
	(i) dollar value of management decisions that were consistent with OIG recommendations	6,232,733
	(ii) dollar value of recommendations that were not agreed to by management	55,865
E.	For which no management decision had been made by the end of the reporting period	3,558,357
For which no management decision was made within 6 months of issuance		3,293,500

AUDIT REPORTS ISSUED WITH QUESTIONED COSTS

		Number	Questioned Costs	Unsupported Costs
A.	For which no management decision has been made by the commencement of the reporting period	39	10,638,622	5,110,146
B.	That were issued during the reporting period	28	4,349,653	1,285,650
C.	Adjustments related to prior recommendations	0	0	0
Subtotal of A+B+C		**67**	**14,988,275**	**6,395,796**
D.	For which a management decision was made during the reporting period	42	6,080,238	2,912,377
	(i) dollar value of disallowed costs	N/A	2,083,102	N/A
	(ii) dollar value of costs not disallowed	N/A	3,997,136	N/A
E.	For which no management decision had been made by the end of the reporting period	25	8,908,037	3,483,419
For which no management decision was made within 6 months of issuance		10	5,106,160	2,294,869

ADDITIONAL PERFORMANCE MEASURES

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

Tables that provide statistics concerning these required performance measures are on pages 41 and 42. General Accounting Office and OMB suggested that Offices of Inspector General develop additional performance measures that provide information about their activities. As a result, we developed two additional performance measures to provide additional insights about the work of our office. The two additional measures are "Cost-Sharing Shortfalls" and "Systemic Recommendations."

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

We divide cost-sharing shortfalls into two categories. Shortfalls occurring during the life of a project indicate that the grantee may not be able to provide all promised resources from non-federal sources before completing the project. Shortfalls that remain when a project is complete demonstrate that a grantee has in fact not met cost-sharing obligations; these findings result in formal questioned costs. The table on page 35 provides statistical information about shortfalls occurring during the course of a project and at the completion of the project.

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

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

We routinely track these systemic recommendations and report to NSF's Director and Deputy Director quarterly about the status of our recommendations. The table on page 36 provides statistical information about the status of all systemic recommendations that involve NSF's internal operations.

AUDIT REPORTS INVOLVING COST-SHARING SHORTFALLS

	Number of Reports	Cost-Sharing Promised	At Risk of Cost-Sharing Shortfall/ (Ongoing Project)	Cost-Sharing Shortfalls at Completion of the Project
A. For which no management decision has been made by the beginning of the reporting period				
1. Reports with monetary findings	19	49,746,159	26,856,207	1,639,287
2. Reports with compliance findings	2	N/A	N/A	N/A
B. That were issued during the reporting period				
1. Reports with monetary findings	9	26,883,632	16,128,814	1,431,354
2. Reports with compliance findings	2	N/A	N/A	N/A
C. Adjustments related to prior recommendations		N/A	N/A	(1,213,927)
Total of Reports With Cost-Sharing Findings (A1+A2+B1+B2)	**32**	**76,629,791**	**42,985,021**	**1,856,714**
D. For which a management decision was made during the reporting period				
1. Dollar value of cost-sharing shortfall that grantee agrees to provide	11	52,461,118	24,432,394	51,845
2. Dollar value of cost-sharing shortfall that management waives	4	0	0	207,559
3. Compliance recommendations with which management agreed	2	N/A	N/A	N/A
4. Compliance recommendation with which management disagreed	0	N/A	N/A	N/A
E. For which no management decision has been made by the end of the reporting period				
1. Reports with monetary findings	13	24,168,673	18,552,627	1,597,310
2. Reports with compliance findings	2	N/A	N/A	N/A

STATUS OF SYSTEMIC RECOMMENDATIONS THAT INVOLVE INTERNAL NSF MANAGEMENT

Open Recommendations	
Recommendations Open at the Beginning of the Reporting Period	11
New Recommendations Made During Reporting Period	19
Total Recommendations to be Addressed	30
Management Resolution of Recommendations[1]	
Awaiting Resolution	21
Resolved Consistent With OIG Recommendations	9
Management Decision That No Action is Required	0
Final Action on OIG Recommendations	
Final Action Completed	7
Recommendations Open at End of Period	23
Aging of Open Recommendations	
Awaiting Management Resolution:	
0 through 6 Months	16
7 through 12 Months	5
more than 12 Months	0
Awaiting Final Action After Resolution[2]	
0 through 6 Months	1
7 through 12 Months	0
13 through 18 Months	1

[1] "Management Resolution" occurs when management completes its evaluation of an OIG recommendation and issues its official response identifying the specific action that will be implemented in response to the recommendation.

[2] "Final Action" occurs when management has completed all actions it had decided are appropriate to address an OIG recommendation.

LIST OF REPORTS

NSF and CPA Performed Reviews

Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds	Cost Sharing At-Risk
99-1001	State Board	8,908	0	0	0
99-1002	University	176,475	51,897	0	1,301,728
99-1004	Public School System	54,841	0	0	3,208,703
99-1005	Society	32,904	28,220	0	0
99-1006	City School System	319,548	279,487	0	0
99-1007	University	700,337	541,308	0	2,279,762
99-1008	Space Institute	609,840	0	0	113,894
99-1010	Research Institute	20,402	0	0	0
99-1011	Telecommunications Co.	193,418	68,880	0	0
99-1012	School	59,709	0	0	0
99-1013	State Dept. of Education	110,328	0	0	0
99-1014	Contractor	0	0	64,857	0
99-1015	State Dept. of Education	863,027	93,344	0	8,598,204
99-1016	Museum	332,737	193,607	0	626,523
99-1018	Research Center	0	0	0	0
99-1019	Research Center	0	0	200,000	0
99-1020	Research Center	0	0	2,400,000	0
99-1021	College	80,280	28,907	0	0
99-1022	State Dept. of Education	40,068	0	0	0
99-1023	Institute	17,740	0	0	0
99-1024	University	452,619	0	0	0
99-2001	Office of Polar Programs	0	0	401,000	0
99-2002	SBIR Awards	0	0	0	0
99-2003	Review Vendor Training Request Process	0	0	0	0
99-2004	Report on FY 98 Financial Statements	0	0	0	0
99-2005	FY 98 Management Letter Report	0	0	0	0
99-2006	SBIR Companies	0	0	0	0
99-6001	State Univ. Foundation	0	0	0	0
99-6002	NSF Program	42,848	0	0	0
99-6003	Association	0	0	0	0
99-6004	Center	0	0	0	0
99-6005	Research Centers	0	0	0	0
99-6006	State University	6,119	0	40,687	0
	Total	**4,122,148**	**1,285,650**	**3,106,544**	**16,128,814**

LIST OF REPORTS

NSF-Cognizant Reports

Report Number	Subject	Questioned Costs	Unsupported Costs	Cost Sharing At-Risk
99-4001	Society	0	0	0
99-4002	Institute	0	0	0
99-4003	Institute	0	0	0
99-4004	Company	0	0	0
99-4005	Association	0	0	0
99-4006	Society	0	0	0
99-4007	Botanical Garden	0	0	0
99-4009	Foundation	0	0	0
	Total	**0**	**0**	**0**

Other Federal Audits

Report Number	Subject	Questioned Costs	Unsupported Costs
99-5001	School District	48,471	0
99-5003	Engineering Program	10,092	0
99-5007	Laboratory	3,130	0
99-5010	Institute	1,959	0
99-5015	State	9,488	0
99-5018	College	27,585	0
99-5021	University	15,597	0
99-5025	Research Foundation	41,835	0
99-5029	State	69,348	0
	Total	**227,505**	**0**

AUDIT REPORTS WITH OUTSTANDING MANAGEMENT DECISIONS

This section identifies audit reports involving questioned costs, funds put to better use, and cost sharing at risk where management had not made a final decision on the corrective action necessary for report resolution within 6 months of the report's issue date. At the end of the reporting period, there were 10 audit reports with questioned costs, 2 reports with recommendations for funds to be put to better use, and 4 items involving cost sharing at risk. The status of systemic recommendations that involve internal NSF management are described on page 36.

Report Number	Title	Date Report Issued	Dollar Value	Status
Items Involving Questioned Costs				
97-1004	Public School System	02/04/97	130,996	1
97-2105	FFRDC Contracts	03/31/97	641,129	3
98-1004	Public School System	12/17/97	225,938	1
98-1006	Board of Education	12/18/97	2,071,176	1
98-1008	Science Museum	01/28/98	5,534	1
98-1016	Technical Institute	03/31/98	109,887	1
98-1018	Company	03/31/98	705,125	1
98-1019	State Dept. of Education	03/31/98	1,099,207	1
98-1024	School District	05/04/98	62,762	1
98-1028	College	07/22/98	54,406	1
	Total		**5,106,160**	
Items Involving Funds Put to Better Use				
98-1008	Science Museum	01/28/98	87,000	1
98-2107	Antarctic Flight Operations	09/30/98	3,206,500	1
	Total		**3,293,500**	

Status Codes
1 = Resolution is progressing with final action expected in next reporting period.
2 = Information requested from grantee not yet received in full.
3 = Further negotiations required before resolution.

AUDIT REPORTS WITH OUTSTANDING MANAGEMENT DECISIONS

Report Number	Title	Date Report Issued	Dollar Value	Status
Items Involving Cost Sharing at Risk				
98-1006	Board of Education	12/18/97	366,611	2
98-1018	Company	03/31/98	8,987,733	2
98-1024	School District	05/04/98	1,067,673	2
98-1031	Engineering Center	08/13/98	600,000	2
	Total		**11,022,017**	

Status Codes
1 = Resolution is progressing with final action expected in next reporting period.
2 = Information requested from grantee not yet received in full.
3 = Further negotiations required before resolution.

INVESTIGATIVE ACTIVITY AND STATISTICS

Investigative Activity

Active Cases From Previous Reporting Period	47
New Allegations	14
Total Cases	**61**
Cases Closed After Preliminary Assessments	4
Cases Closed After Inquiry/Investigation	26
Total Cases Closed	**30**
Active Cases	**31**

Investigative Statistics

New Referrals	2
Referrals From Previous Reporting Period	9
Prosecutorial Declinations	2
Indictments (including criminal complaints)	0
Criminal Convictions/Pleas	2
Civil Settlements	1
Civil Complaints	1
Administrative Actions	5
Investigative Recoveries*	$149,708

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

MISCONDUCT CASE ACTIVITY AND ASSURANCE/CERTIFICATIONS RECEIVED

Misconduct Case Activity

	FY 1998 Last Half	FY 1999 First Half
Active Cases From Prior Period	58	53
Received During Period	15	35
Closed Out During Period	20	33
In-Process at End of Period	53	55
Cases Forwarded to the Office of the Director During Period for Adjudication	2	2
Cases Reported in Prior Periods With No Adjudication by the Office of the Director	3*	1**

*Two of these cases are described in our September 1997 Semiannual Report, pages 36 through 39, and in our March 1998 Semiannual Report, pages 27 and 28.

**This case is described in our September 1998 Semiannual Report, pages 16 and 17.

Assurances and Certifications Received*

Number of Cases Requiring Assurances at End of Period	1
Number of Cases Requiring Certifications at End of Period	1
Assurances Received During This Period	0
Certifications Received During This Period	0
Number of Debarments in Effect at the End of Period	3

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

GLOSSARY

Funds to be Put to Better Use

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

Questioned Cost

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

NSF's Definition of Misconduct in Science and Engineering

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

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Semiannual Report to the Congress

OIG

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