MANAGEMENT CHALLENGES

X. - MANAGEMENT CHALLENGES AND REFORMS

Federal agency management challenges are discussed in the President's Management Agenda (PMA). For NSF, they are also identified internally by NSF staff and by OMB, GAO, and the NSF Office of the Inspector General (OIG).

The **President's Management Agenda** lists five government-wide initiatives. The first four of these initiatives (Strategic Management of Human Capital, Competitive Sourcing, Improved Financial Performance, and Expanded Electronic Government) are discussed in NSF's FY 2003 Revised Final Performance Plan[39]. NSF's implementation of the remaining initiative, Budget and Performance Integration, is currently under discussion within NSF and between NSF and OMB. We have contracted with IBM Business Consulting Services Global Services to provide formal recommendations to improve our approach on integrating the budget, performance and cost of performance, within the intent of the Government Performance and Results Act (GPRA), Statement of Federal Financial Accounting Standard (SFFAS) 4, and Managerial Cost Accounting Concepts and Standards for the Federal Government.

The **OIG** issues addressed below are those included in a January 2002 statement by the Inspector General on NSF's management and performance challenges. This statement was released on January 30, 2002 and is contained in the NSF FY 2001 Accountability Report. In many instances, the management and performance challenges contained in the PMA, OMB, GAO, and the OIG documents are very similar.

For FY 2002, the NSF OIG identified 10 areas for NSF to monitor:

FY 2002 OIG Major Management Challenges

1. Work Force Planning and Training
2. Management of Large Infrastructure Projects
3. Award Administration
4. Cost Sharing
5. Data Security
6. GPRA Data Quality
7. Cost Accounting Systems
8. Management of U.S. Antarctic Program
9. Merit Review and its Role in Fostering Diversity
10. The Math and Science Partnership Program

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[39] http://www.nsf.gov/od/gpra/

1. WORK FORCE PLANNING AND TRAINING

NSF OIG COMMENT: "The strategic management of human capital is recognized as an important priority throughout government and is an important element of the President's Management Agenda. This past year, the General Accounting Office (GAO) also added human capital management to the government-wide high-risk list. NSF management has acknowledged the seriousness of its human resource management challenge. The agency is vulnerable to a wave of retirements in key areas as 63% of the agency's executive workforce, as well as a large percentage of the science and engineering staff, are eligible to retire within 5 years. Meanwhile NSF's budget for salaries and expenses continues to lag behind the growth of NSF's overall program budget. NSF's Management Controls Committee evaluated this issue as a medium risk, and warned that it could worsen in the not too distant future. The agency is expected to begin to address these issues as part of a 5 year plan it is submitting to the Office of Management and Budget (OMB). The plan will serve as a blueprint for enabling the agency to cope with the increase in workload that NSF has received during the past few years. As part of the OIG's FY 2002 appropriations bill, Congress requested that our office analyze the adequacy of the agency's staffing and management plan. Planning for our review is underway, and our final report is due in the summer of 2002.

In the interim, NSF reports that it is engaged in an effort to introduce fundamental changes in NSF business processes and practices, including redefining NSF position descriptions. The agency is also in the process of establishing an NSF Academy to provide all education and training needed by the agency. We view the development of a training program appropriate for NSF's needs as an urgent priority, particularly in light of NSF's dependence on Intergovernmental Personnel Act (IPA) personnel, who serve at NSF on a temporary basis and comprise a significant percentage of the workforce that requires continual training."

THE PRESIDENT'S MANAGEMENT AGENDA (2002) includes strategic management of human capital as a government-wide initiative.

GAO *(GAO-01-236, April 2001)* has identified shortcomings of many agencies involving key elements of modern strategic human capital management, including (1) strategic planning and organizational alignment; (2) leadership continuity and succession planning; and (3) acquiring and developing staff whose size, skills, and deployment meet agency needs.

FOCUSED NSF ACTIVITIES IN THIS AREA: NSF's flexible and motivated workforce currently includes approximately 650 permanent and visiting scientists and engineers (about 65% of whom are permanent government employees), 450 administrative personnel who provide business operations support, and approximately 300 program support personnel.

NSF has a steadfast commitment to empower a workforce of teams and individuals who are continuously expanding their capabilities to shape the agency's future. To sustain its high-performing workforce, NSF is exploring ways to recruit and retain excellent employees. New initiatives include an updated telecommuting program, strategic recruiting techniques that also seek to increase representation of underrepresented groups in the NSF science and engineering workforce, a renewed focus on continuous learning and an increased emphasis on leadership and succession planning.

NSF has entered into a multi-year contract to perform a Strategic Business Analysis which will examine organizational alignment and the workforce size, skill mix, and deployment necessary to ensure mission accomplishment. This effort continues through FY 2005; NSF will develop and implement human capital strategies and an human resource accountability system during this timeframe as findings and recommendations are received.

2. MANAGEMENT OF LARGE INFRASTRUCTURE PROJECTS

NSF OIG COMMENT: "In response to an OIG audit report, as well as concerns expressed by Congress and OMB, NSF began updating its policies and procedures during 2001 to strengthen the management and oversight of large facility projects. As part of this process, NSF developed a *Large Facility Projects Management and Oversight Plan*. NSF sought OIG input as it developed this plan, and we believe it is an important first step in ensuring that NSF's large facility projects provide appropriate stewardship over public funds, while not unduly constraining the freedom needed to pursue scientific research.

However, much work lies ahead. The plan constitutes a broad outline of NSF's intentions and more-detailed guidelines are required in order for corrective action to be effective. Congress has indicated its concern over the implementation of the plan and expressed a desire for NSF to demonstrate significant progress in implementing it before February 28, 2002. We will continue to monitor NSF's progress, particularly with regard to areas of accountability, authority, and post-award project management, to ensure that sound business and management practices are employed in advancing NSF's scientific goals."

FROM OMB: OMB has noted that NSF has several multi-year, large facility projects awaiting approval for funding. Although the agency has done well in keeping past projects on schedule and within budget, OMB believes that NSF's capability to manage proposed projects needs to be enhanced given the magnitude and costs of future projects. NSF was asked to develop and submit a plan to OMB that documents its costing, approval, and oversight of major facility projects.

FOCUSED NSF ACTIVITIES IN THIS AREA: NSF continues its efforts to improve management and oversight of its large facility projects in accordance with the plans laid out in the *Large Facility Projects Management & Oversight Plan* (submitted to OMB in September 2001). Organizationally, NSF has named an interim Deputy Director for Large Facility Projects to provide expert project management and business operations advice and oversight. This individual and other NSF staff are developing the comprehensive guidelines and procedures for all aspects of facilities planning, management and oversight. Staff capabilities are being enhanced through introduction of a project management training curriculum and through consistent representation on all Project Advisory Teams for the purpose of sharing lessons learned. A manual for conducting on-site monitoring is also being developed.

This new facilities plan has four major foci:
- Enhance organizational and staff capabilities and improve coordination, collaboration, and shared learning among NSF staff and external partners;
- Implement comprehensive guidelines and procedures for all aspects of facilities planning, management and oversight;
- Improve the process for reviewing and approving Large Facility Projects; and
- Practice coordinated and proactive oversight of all facility projects.

Further development and implementation of the plan is continuing.

A new search for a Deputy Director for Large Facilities Projects was launched in August 2002.

3. AWARD ADMINISTRATION

NSF OIG COMMENT: "At any point in time, approximately 1,150 NSF staff are engaged in administering as many as 20,000 active awards. This is in addition to their responsibility for soliciting and awarding approximately 10,000 new grants and cooperative agreements annually. While NSF has demonstrated its efficiency in making awards, we believe that the agency should improve post-award monitoring by establishing written policies and procedures to ensure financial and administrative compliance.

In the course of performing financial and compliance audits on a variety of awardees, we have found that some are at greater risk for compliance problems than others. Since NSF staff resources are limited, factors such as award size, type of entity, and amount of experience with federal grants should be considered when determining which awardees should be accorded greater oversight. For awardees deemed to be higher risk, the procedures might include conducting a more rigorous analysis of their grant management systems prior to the start of an award, providing more-detailed instruction to high risk awardees, and monitoring award activity more closely to assure financial and administrative compliance. NSF's Division of Grants and Agreements (DGA) is developing a risk-management approach to post-award monitoring activities. We look forward to working with DGA on the development of new procedures that will address this challenge."

FOCUSED NSF ACTIVITIES IN THIS AREA: To address the need for increased oversight of the agency's complex and diverse portfolios, the NSF A&M Strategic Plan includes a framework for Award Management and Oversight that focuses on a collaborative, multi-functional award management and oversight process that is informed by risk management strategies and verifies that projects are in compliance.

NSF has drafted a strategic plan and a *Risk Assessment and Award Monitoring Guide* for assessing and managing awardee risks and assets focusing on financial and administrative monitoring to insure proper stewardship of federal funds at awardee institutions. This draft plan is being piloted at a number of institutions and will be refined based on our assessment of these reviews.

4. COST SHARING

NSF OIG COMMENT: "Cost sharing leverages the government's investment in basic research by obtaining contributions from grantees and others. In FY 2000 NSF made 3,111 awards that required cost sharing amounting to $508,516,513. Our audits of awardees continue to reveal problems with cost sharing that include shortfalls in contributions, instances of missing or insufficient documentation, and systems that are inadequate to ensure their proper accounting.

Given the large amount of these commitments, the failure to honor cost sharing obligations or to keep proper accounts can have serious consequences for NSF's awards. When an awardee promises cost sharing, it accepts an obligation to contribute a certain amount of money and/or resources to the project costs. The government requires that these funds be fully accounted for so it can determine whether the obligation has been fulfilled. Therefore, if promised cost sharing is not realized, either the programmatic objectives are not met or the project is not funded as originally projected. In either case, NSF has paid a larger share than what was agreed to and opportunities for the agency to fund other awards are curtailed. For these reasons, we believe that NSF should re-examine its policies on the reporting of cost sharing and resolving of any questioned amounts to ensure compliance with federal guidelines."

FOCUSED NSF ACTIVITIES IN THIS AREA: During FY 2002, the Division of Budget and Financial Administration (BFA) began development of the Risk Assessment and Award Monitoring Guide. This document establishes the strategic framework for assessing and managing awardee risks and assets. Cost sharing is identified as a high-risk factor and was focused on in development of the risk assessment protocol, currently being pilot tested with a sample set of organizations. NSF envisions increased on-site review to provide important business and managerial assistance to awardees in this area.

In addition, BFA is currently developing a white paper on cost sharing. It will include an assessment of issues that have surfaced since implementation of Important Notice 124, Implementation of the New Cost Sharing Policy, and provide recommendations for addressing them. Upon completion of the initial draft, NSF anticipates conducting outreach to NSF Program Officers and the community, via the Federal Demonstration Partnership, to assess the agency's proposals.

At the August 2002 meeting of the National Science Board, the Audit and Oversight Committee affirmed the importance of this issue and requested that NSF develop more explicit policies and procedures related to implementation of the "tangible benefit" criterion of the cost sharing policy.

5. DATA SECURITY

NSF OIG COMMENT: "NSF faces the challenging task of facilitating an open research culture while protecting its critical information assets against unauthorized intrusion. Although NSF has enhanced its security program by establishing an Intrusion Detection Service and appointing a Security Officer, continuing efforts are needed to improve system security. Our review of NSF's information security program indicates that there may be weaknesses that increase security risks. NSF has concurred with our recommendations and has initiated corrective action.

We commend the agency for making many improvements to its innovative FastLane program in the past year. FastLane allows NSF's customers to use the Internet to exchange information with NSF in the performance of a variety of tasks, including preparing and submitting proposals, proposal reviews and project reports. Given its vital role as the primary vehicle for transacting NSF business, we listed FastLane as a management challenge last year and emphasized the need for NSF to continue to monitor its progress, paying particular attention to making it as user-friendly and reliable as possible. NSF states that the problem in servicing requests for help from FastLane users was addressed through increased staff, better procedures, and improved on-line documentation.

However, NSF management needs to continue to address some important emerging issues. NSF is participating with other federal agencies in a project to provide grant applicants with a single information exchange portal for all grant-making agencies, called the "Federal Commons." The implementation of the system will begin in FY 2003 and will require significant commitments from NSF before it is operational. While the Federal Commons is under development, the agency is planning to continue to improve FastLane by increasing the number of critical agency functions it supports. In general, the rapid growth of FastLane and other information technology applications at NSF increases the need for an effective information security program."

GAO (01-758) noted that recent audits continue to show that federal computer systems are riddled with weaknesses that make them highly vulnerable to computer-based attacks and place a broad range of critical operations and assets at risk of fraud, misuse, and disruption.

FOCUSED NSF ACTIVITIES IN THIS AREA: The NSF Information Technology Security (ITS) Program remains focused on ensuring that NSF infrastructure and critical assets are appropriately protected while maintaining an open and collaborative environment for science and engineering research and education. An agency-wide ITS program has been implemented encompassing all aspects of information security, including policy and procedures, risk assessments and security plans, managed intrusion detection services, vulnerability assessments, and technical and management security controls. Operational procedures and controls are in place to ensure the security, reliability, and integrity of information technology resources that support NSF operations. Additional resources have been requested to enhance the agency's overall security posture through the use of emerging "smart technology."

NSF has a comprehensive framework for establishing appropriate safeguards and controls and ensuring that they are integrated into existing and new information technology assets and resources. Documentation in accordance with OMB Circular A-130, "Management of Federal Information Resources" of risk assessments and commensurate security plans for major systems is prepared and independently reviewed to ensure that ITS requirements are addressed. In the unlikely event of a major disaster, NSF has comprehensive disaster recovery plans and capabilities, which are tested on an annual basis at a hot-site location.

NSF has implemented policies and processes to ensure it is alert to intrusion attempts and is positioned to take effective action to thwart them. Routine penetration testing is planned to start in FY 2003.

In accordance with Government Information Security Reform Act (GISRA) and the Computer Security Act and due to the increased need for IT security, NSF has implemented a program to provide IT security training to all NSF staff and contractors who use NSF computer systems.

6. GPRA DATA QUALITY

NSF OIG COMMENT: "The President's Management Agenda outlines plans to formally link performance review with budget decisions beginning in FY 2003. This initiative complements the objectives of the Government Performance and Results Act (GPRA) enacted in 1993 to focus federal programs on performance. While NSF is making steady progress in complying with GPRA, the agency needs to evaluate and improve, as appropriate, both its formulation of GPRA measures and its verification of data in order to facilitate the integration of budget and performance information.

In a report issued in June 2001, GAO found that while most strategies for achieving NSF's key outcomes were generally clear and reasonable, some are vague and do not identify specific steps for achieving their goal. GAO also observed that NSF did not provide information on the strategic human capital management strategies necessary to achieve some of the outcomes.

In addition, the validity of NSF's GPRA data and outcome measures has not been firmly established. In order to address these concerns, which were raised by GAO in a report on NSF's FY1999 Performance Report, the agency retained a contractor to verify and validate selected GPRA performance data, including outcome measures. These measures are based on the reports of various external expert panels including the Committees of Visitors (COVs) and Advisory Committees (ACs), which conduct evaluations of program activities. Although the contractor concluded that NSF's processes were adequate, we found that the contractor did not assess the process used by the committees to make their determinations, nor did it evaluate the underlying data used by the committees in making their judgments. NSF states that it understands the importance of data quality and is implementing a COV data project that will substantially improve the information used by NSF committees. Our office is planning to conduct a review of the COV process during the current fiscal year."

FOCUSED NSF ACTIVITIES IN THIS AREA: For FY 2000 and FY 2001 GPRA reporting, NSF engaged an external party, IBM Business Consulting Services, to provide an independent verification and validation (V&V) of selected GPRA goals. The V&V focused on reliability of data, on processes to collect, process, maintain, and report the data, and on program reports prepared by external experts. IBM Business Consulting Services mapped NSF procedures against GAO guidance for polices and procedures that underlie GPRA performance reporting.

IBM Business Consulting Services' FY 2000 assessment concluded that NSF was reporting its GPRA measures with "sufficient accuracy such that any errors, should they exist, would not be significant enough to change the reader's interpretation as to the Foundation's success in meeting the supporting performance goal...." In FY 2001 IBM Business Consulting Services concluded "From our review, we determined that NSF has reported on ten of the quantitative goals and all five qualitative goals in a manner such that any errors, should they exist, would not be significant enough to change the reader's interpretation of the Foundation's success in meeting the supporting performance goal…. For the four goals related to facilities management, we identified significant data limitations, which impaired our ability to verify the processes. However, we believe that NSF's reported outcomes are consistent with the data they collected."

NSF will reassess its GPRA outcome measures during preparation of the updated and revised Strategic Plan, due to OMB on March 1, 2003. The agency has also engaged the services of an external management-consulting firm to conduct an integrated performance, cost, and budget strategy assessment, with the intent of obtaining different scenarios to meet our growing requirements in this arena. Information derived from these activities will allow NSF senior management to address the most appropriate and useful cost and performance information to develop and monitor.

7. COST ACCOUNTING SYSTEMS

NSF OIG COMMENT: "Good cost accounting information can help management make fully informed decisions based on evaluating the cost of an activity or project against its benefits. At present, NSF's information systems do not readily provide the basic cost accounting information needed to effectively manage and report on agency operations, such as the cost of NSF's various grantmaking activities (e.g., proposal processing, peer review, post-award administration) or large infrastructure projects.

The OIG's FY 2000 Management Letter Report recommended that NSF develop performance measures and goals that can be linked to NSF's budget, actual cost of operations, and the management challenges. NSF's ability to measure agency performance, link its costs to its results, and fully implement GPRA, is dependent on an effective financial and cost accounting system. Therefore, NSF should modify its accounting systems so they can capture total costs and readily supply total cost information useful to NSF management, the National Science Board, and Congress."

FROM THE PRESIDENT'S MANAGEMENT AGENDA: NSF is rated "red" on the Budget-Performance Integration initiative of the President's Management Agenda in part because the NSF Budget does not charge the full budgetary cost to individual activities.

FOCUSED NSF ACTIVITIES IN THIS AREA: With regard to the recommendation that the Chief Financial Officer (CFO) "develop and report cost efficiency measures that align with the outputs/outcome goals identified in its Statement of Net Cost," NSF is taking this recommendation into consideration as part of the Foundation's effort to further integrate performance, budgeting and cost. This process recommendation and suggested alignment is being considered as one of many possible means to achieve enhanced integration. The Foundation has recently engaged the services of an external management-consulting firm to conduct an integrated performance, cost, and budget strategy assessment, with the intent of obtaining different scenarios to meet our growing requirements in this arena. This study included a best practices survey of public and private enterprises, and input from NSF senior staff on financial and performance information needed to make better management and budgetary decisions. NSF senior management are evaluating the results of the study to determine the most appropriate and useful cost and performance information to develop and monitor.

8. MANAGEMENT OF U.S. ANTARCTIC PROGRAM

NSF OIG COMMENT: "The U.S. Antarctic Program (USAP) should deliver its services as effectively and efficiently as possible in order to facilitate the impressive scientific discoveries that are taking place in the Antarctic. NSF's Office of Polar Programs (OPP) oversees the USAP and manages all U.S. activities in the Antarctic serving the scientific community as a single program. It also supports most of the polar research funded by the National Science Foundation. OPP accomplishes most of its responsibilities by contracting with private companies and governmental organizations. With responsibilities similar in some respects to those of a local government, OPP provides all the infrastructure, instrumentation, and logistics necessary to enable the research efforts of more than 2,000 scientists from around the world.

The successful operation of the USAP requires unique management and administrative skills that are responsive to the special needs of Antarctic scientific research. OPP staff must not only know the science, but must also manage contractors engaged in delivering a broad range of services to the American scientific community located in a difficult and dangerous environment. Our audit work has focused on reviewing these support activities because of their many inherent risks. From our perspective, NSF's polar programs involve not only a large expenditure of money, but also the safety of scientists and workers, environmental concerns, and the national interests of the U.S. Government. For example, we are currently reviewing USAP's safety and health program, regarded as a high-risk activity because of the difficulties of delivering medical services in such a remote location. Another challenge for the program is the tracking and accounting for items associated with the USAP's large and distant infrastructure, which includes equipment, planes, ships and buildings. Capturing the correct information requires close coordination among OPP, its contractors, and NSF financial staff."

FOCUSED NSF ACTIVITIES IN THIS AREA: NSF agrees with the OIG that the safety of scientists and workers, environmental concerns, and the national interests of the U.S. Government require unique management and administrative skills that are responsive to the special needs of Antarctic scientific research. In order to meet these challenges NSF staff utilize their special expertise to:

- Implement next steps in long range plan for renovating/updating McMurdo Station infrastructure;
- Coordinate Department of Defense, NASA, USGS and DOE activities;
- Oversee environmental, health, safety, and medical activities;
- Oversee construction and maintenance of all infrastructure at three U.S. stations in Antarctica (roads, fire stations, clinics, power stations, heating, communications, ground stations, air traffic control, ground vehicles, food services, sewage treatment, water supplies, etc.);
- Coordinate support of scientists in Antarctica, construction of specialized science instrumentation, etc.;
- Budget for the above activities; and
- Select science projects for deployment on the basis of merit review and ability to meet logistics requirements.

9. MERIT REVIEW AND ITS ROLE IN FOSTERING DIVERSITY

NSF OIG COMMENT: "The effectiveness and integrity of the merit review system may be NSF's most valuable asset. The agency considers this system "the keystone for award selection" and focuses many of its management activities on issues related to merit review. We endorse those efforts and believe that maintaining and improving the quality and integrity of the merit review process will remain a significant challenge for NSF management for years to come.

During the past year the National Academy of Public Administration released a report on the agency's criteria for project selection, focusing in particular on the impact of Criterion 2, which is aimed at evaluating the potential societal impact of a project. While NAPA concluded that it is too soon to judge the impact of Criterion 2, it made several recommendations regarding its use. Specifically, NAPA stated that NSF needed to develop clearer objectives for the new criterion and adopt quantitative measures and performance indicators to track those objectives. Noting that the ultimate issues raised by implementation of Criterion 2 are not those of language but philosophy, NAPA suggested broader-based review panels with participants drawn from a wider range of institutions, disciplines, and underrepresented minorities."

NSF has initiated several changes to the merit review process in the past year to ensure that more attention is paid to Criterion 2, and we understand that further changes are being considered. NSF also states that it is adding new GPRA measures to track progress in encouraging participation in the merit review process by a broader range of institutions and underrepresented minority researchers. Because of its importance to the success of NSF's mission, the merit review system remains on the list of management challenges."

FOCUSED NSF ACTIVITIES IN THIS AREA: NSF considers its merit review process the keystone for award selection. The agency evaluates proposals using two criteria – the intellectual merit of the proposed activity and its broader impacts. NSF staff rely on expert evaluation by selected peers when evaluating proposals and making funding decisions. Each year, more than 250,000 merit reviews are provided to assist NSF with the evaluation of proposals submitted for consideration.

NSF focuses its management activities on a wide variety of issues related to merit review – including use of both merit review criteria by reviewers and program officers, broadening participation, and enhancing customer service.

In FY 2001 NSF established an internal task force to examine strategies to improve both proposer and reviewer attention to the broader impacts criterion. The group assessed the characteristics and quality of reviewer responses to this criterion and found that, based on a sample of FY 2001 reviews, approximately 69 percent of reviews provided evaluative comments in response to the broader impacts criterion. The group also developed examples of broader impacts that may be useful to proposers in developing proposals and reviewers in evaluating proposals.

NSF has also revised its guidance to proposers. The Grant Proposal Guide (GPG) now specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one page Project Summary. The GPG also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative. Effective October 1, 2002, NSF returns without review proposals that do not separately address both merit review criteria within the Project Summary.

10. THE MATH AND SCIENCE PARTNERSHIP PROGRAM

NSF OIG COMMENT: "NSF has been designated the lead agency on a key element of the President's initiative, *No Child Left Behind,* aimed at strengthening and reforming K-12 education. As the performance of American school children on math and science tests continues to disappoint, NSF is preparing to launch the Math and Science Partnership Program. The partnerships will provide $160 million this year for state and local school districts to join with colleges and universities to improve math and science education at the grade school level. A defining feature of the program will be the development of the partnerships between school districts, state and local governments, and institutions of higher learning.

Although we are confident that NSF is striving to achieve success with this initiative, implementation of the program will pose several challenges to NSF. On a practical level, it requires NSF to articulate expectations clearly at the outset and make many awards within a short time frame. Once the selections are made, NSF program officers will need to provide extensive coaching of projects in their formative stage to ensure that awardees do effective project planning. Because the success of the program will depend on a sustained collaboration between institutions that may not be used to working together, NSF staff will also need to assist project partners in building a shared sense of purpose and coordinating efforts.

Also, NSF's experience with projects such as the Urban Systems Initiative indicates that projects involving innovative partnering among awardees with limited experience in handling federal funds will require close monitoring of all aspects of their project, including financial and administrative matters. Therefore, the involvement of NSF on a continuing basis is essential. NSF staff will need to help coordinate the efforts of the various parties, monitor the progress of the projects, and ensure that federal funds are handled properly."

FOCUSED NSF ACTIVITIES IN THIS AREA: NSF has developed a comprehensive award oversight and management plan for all Math and Science Partnership awards.

NSF expects to make approximately 30-40 MSP awards in FY 2002. Larger, more complex awards will be made as cooperative agreements. These cooperative agreements will describe the post-award management and oversight that will support the work of MSP partnerships in realization of their goals; management and oversight activities will draw upon NSF's strong, community-based site visit processes.

The lead partners responsible for both fiscal and project management of MSP-supported projects will, for the most part, be institutions with significant experience handling federal funds. For lead partners with no prior experience working with NSF or other federal funds, NSF staff will work closely with these organizations in the monitoring of all aspects of the project, including financial and administrative matters.