EXECUTIVE SUMMARY

This report, prepared pursuant to the Government Performance and Results Act (1993), covers activities of the National Science Foundation during Fiscal Year 2002.

NSF goals are divided into two broad areas: Strategic Outcome Goals and Management Goals.

Strategic Outcome Goals: Our strategic outcome goals focus on PEOPLE, IDEAS, and TOOLS and concern the practical, concrete, long-term results of NSF grants and programs. They represent what we seek to accomplish with the investments we make in science and engineering research and education.

Management Goals: Our management goals relate to the effectiveness and efficiency of our activities. They relate to the procedures we use to make awards, fund and manage capital projects, and otherwise serve our customers.

FY 2002 Results: We met 18 (78%) of our 23 goals. Foundation staff verified and validated all NSF performance data. In addition, International Business Machines (IBM) Business Consulting Services, an independent examiner engaged by NSF, verified and validated selected performance information and data.

Outcome Goals: We were successful for all four (100%) of our outcome goals related to:
- Developing "a diverse, internationally competitive and globally-engaged workforce of scientists, engineers, and well-prepared citizens";
- Systemic reform in K-12 schools;
- Enabling "discovery across the frontier of science and engineering, connected to learning, innovation and service to society"; and,
- Providing "broadly accessible, state-of-the-art and shared research and education tools."

Examples of accomplishments for each of the outcome goals are provided within the body of the report. They represent only a small fraction of the results identified by external experts.

Management Goals: We were successful for 14 of our 19 goals (74%) in this area: We were able to:
- Allocate at least 85% of funds to projects reviewed by external peer groups and selected through merit-based competition (Goal IV-1).
- Ensure that reviewers address the elements of *both* generic review criteria when evaluating proposals at a level above that of FY 2001. In FY 2002 approximately 84% of the reviewers addressed both criteria (Goal IV-2).
- Ensure that NSF Program Officers address both generic review criteria when making award decisions. Approximately 78% of review analyses commented on aspects of both merit review criteria (Goal IV-3).
- Process 70% of our proposals within six months of receipt. Seventy-four percent of our proposals were processed within six months of receipt (Goal IV-5).
- Increase our average annualized award size for research projects to $113,000. We exceeded our goal, achieving an average annualized award size of $115,666 (Goal IV-7a).
- Develop and initiate a risk assessment / risk management plan for awards (Goal IV-8).
- Keep annual construction and upgrade expenditures at 90% of our facilities within 110% of estimates. Ninety-three percent of the projects were within 110% of annual expenditure plans (Goal IV-9a).
- Keep total cost of construction and upgrade projects initiated after 1996 within 110% of estimates made at the initiation of construction. Two projects were completed (Goal IV-9c).
- Continuing to advance the role of "e-business" in review, award, and management processes by having the technological capability to move competitive proposals submitted electronically through the entire review process without generating paperwork (Goal IV-11).

- Initiate actions to meet the requirements of the Security Act, Office of Management and Budget (OMB) Circular A-130, and the National Institute of Standards and Technology Security Self-Assessment Guide for Information Technology Systems in response to the Government Information Security Reform Act (Goal IV-12).
- Increase the total number of science and engineering hires at NSF from under-represented groups, as judged against an FY 2000 baseline. NSF achieved a 17% increase in female hires and a 42% increase in minority hires (Goal IV-13).
- Establish an internal NSF Academy to promote continuous learning for NSF staff. (Goal IV-14).
- Initiate a strategic business analysis to provide a comprehensive perspective on our future workforce requirement (Goal IV-15).
- Develop an employee survey to establish various baselines that will enable management to better assess the quality of worklife and work environment within the Foundation (Goal IV-16).

We were not successful for five of our management goals. These were:

- Ensuring that 95% of program announcements are available at least three months prior to proposal submission deadlines. We achieved 94%. In FY 2003 NSF will work toward this goal by planning for competitions requiring individual announcements and solicitations as far in advance as possible and initiating clearance processes in a timely manner (Goal IV-4).
- Establishing a baseline for participation of members of underrepresented groups in NSF proposal review activities. Provision of data is voluntary. NSF requested and collected demographic data from reviewers but given the low response rate there was not enough information to establish a baseline. We will continue to request demographic information from reviewers (Goal IV-6).
- Increasing the average duration of awards for research projects to at least three years. Sufficient resources were not available to

achieve both the average annualized award size and the average duration goals. We focused on increasing our average annualized award size. We will continue to focus on increasing both award size and duration (Goal IV-7b).
- Having 90% of our facilities meet all annual schedule milestones. Of 27 construction and upgrade projects supported by NSF, 13 (or 48%) met this goal (compared with 84% in FY 2001). In FY 2001, milestones reached at any time within the fiscal year were considered successful. In FY 2002, milestones had to be reached by the specified date determined during project development. We will work with awardees to identify obstacles to successful performance and implement plans to avoid or mitigate their consequences (Goal IV-9b).
- Holding operating time lost due to unscheduled downtime at 90% of NSF facilities to less than 10% of total scheduled operating time. Of 31 reporting facilities, 26 (84%) met the goal (Goal IV-10).

Management Challenges: The NSF Office of the Inspector General listed 10 major management challenges for FY 2002[1]:
- Work Force Planning and Training
- Management of Large Infrastructure Projects
- Award Administration
- Cost Sharing
- Data Security
- GPRA Data Quality
- Cost Accounting Systems
- Management of U.S. Antarctic Program
- Merit Review and its Role in Fostering Diversity
- The Math and Science Partnership Program

Our responses and focused NSF activities in these areas are provided within the report.

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[1] This Chapter will only address FY 2002 Management Challenges. FY 2003 challenges are discussed in Chapter IV.