

U N I T E D S T A T E S
National Science Foundation



FY 2007 **ANNUAL FINANCIAL REPORT**

November 15, 2007

THE NSF STATUTORY MISSION

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense (NSF Act of 1950)



THE NSF VISION

Advancing discovery, innovation and education beyond the frontiers of current knowledge, and empowering future generations in science and engineering.

On the cover: An essential part of NSF's mission is support for science, math, and engineering education at all levels. Strengthening education and workforce training are significant aspects of the President's American Competitiveness Initiative (ACI) and the recently enacted America Competes Act. In keeping with the ACI and America Competes Act, NSF promotes the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians, and educators, and a well-informed citizenry who have access to the ideas and tools of science and engineering. NSF invests in programs that bolster K-12 science, technology, engineering, and mathematics education by enhancing understanding of how students learn and applying that knowledge to train teachers, develop curricula materials, and improve student learning. For more information on NSF support of all levels of science and engineering education, see www.nsf.gov. Credit: Getty Images

NATIONAL SCIENCE FOUNDATION

FY 2007 Annual Financial Report

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We welcome suggestions on how to make this report more informative. Please provide your comments to Shirley Watt, 4201 Wilson Blvd., Arlington, VA 22230 (smwatt@nsf.gov).



A MESSAGE FROM THE DIRECTOR

I am pleased to share with you the *Annual Financial Report (AFR)* of the National Science Foundation (NSF) for Fiscal Year (FY) 2007. This report focuses on the agency's financial condition, the results of the agency's financial audit, and compliance with the Federal Managers' Financial Integrity Act (FMFIA) and the Federal Financial Management Improvement Act (FFMIA).

This year, NSF can once again report significant advances at the frontiers of knowledge while adhering to the highest standards of management efficiency and integrity. NSF is the only federal agency dedicated to the support of fundamental research across all fields of science and engineering and all levels of science and engineering education. In FY 2007, NSF received nearly 45,000 proposals and made 11,484 new awards to nearly 1,900 colleges, universities, and other public and private institutions throughout the country. The discoveries resulting from these investments in all fields of science and engineering research and education are both exciting and transformative, resulting in new discoveries and innovations that enable the United States to remain competitive in the global marketplace, sustain economic prosperity, protect the environment, maintain a high standard of living and ensure national security. As an example, in FY 2007, NSF-supported researchers reported the development of optical technology for detecting colon cancer that also holds promise for early detection of pancreatic cancer. At the University of South Florida and the University of Florida, NSF-supported researchers are discovering new ways to reduce Internet energy consumption that could potentially save hundreds of millions of dollars annually in the United States alone.

Underlying NSF's programmatic achievements is a commitment to effective and efficient management practices and sound financial oversight.

- NSF received its tenth consecutive unqualified "clean" audit opinion from an independent audit of its financial statements, with no material weaknesses reported.
- NSF is in substantial compliance with the Financial Managers' Financial Integrity Act of 1982, although a qualified management assurance over internal control is being reported because of the scope limitation of the internal review of financial reporting. The scope limitation is in line with the agency's three-year program to meet OMB requirements for agency internal control by the end of FY 2008.
- NSF maintained "Green" successful ratings in three of the five President's Management Agenda Initiatives.
- NSF achieved all three of its mission-related strategic outcome goals of *Discovery*, *Learning*, and *Research Infrastructure*, which together account for 94 percent of the Foundation's investment portfolio.

These accomplishments and others are more fully discussed in this report.

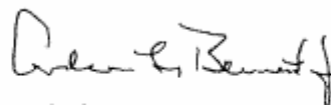
Looking ahead, NSF welcomes the potential opportunities brought by the President's American Competitiveness Initiative and the recently enacted America Competes Act. Both call for expanded federal investment to drive innovation and sharpen the Nation's competitive edge. NSF will direct its funding toward generating fundamental discoveries that produce valuable and marketable technologies; providing cutting edge infrastructure that will transform and enable discovery; and preparing the Nation's workforce with the science, technology, engineering, and mathematics skills necessary in the 21st century global labor market.

NSF has a long record of success in leveraging its agile, motivated workforce, management processes, and technological resources to enhance productivity and effectiveness. The agency nonetheless has major challenges that place new requirements and expectations on its workforce and IT infrastructure. For example, multidisciplinary collaborative projects, international activities, and major research facility projects all add to the complexity of the agency's workload. Moreover, meeting new external administrative, oversight, and accountability requirements is an additional burden on limited staffing and funding resources. In recent years, the agency has undertaken efforts to address workload issues. NSF is continuing pilot activities to re-engineer major administrative functions, including the testing of new organization structures and operational procedures.

The NSF Inspector General has also identified management challenges in several areas including award administration, human capital, information technology, and merit review. NSF management recognizes these as long-term, continuing issues. Significant efforts have been made in these areas, and management's report on activities addressing the Inspector General's FY 2007 management challenges is included in Appendix 3 of this report.

Another item of note is NSF's participation in the pilot program led by the Office of Management and Budget for performance and accountability reporting. This report is the first part of this activity. NSF's FY 2007 performance results will be integrated with our FY 2009 Budget Request which will be available in February 2008. Also, in February, look for our seventh annual *Performance Highlights* report, as NSF continues our ongoing commitment to be informative and accountable to our stakeholders, customers, and the public. Both will be available on NSF's website, www.nsf.gov.

Thank you for your interest in the National Science Foundation. To learn more about the achievements of the past year and about the exciting discoveries that are emerging every day, I encourage you to visit NSF's award-winning website.



Arden L. Bement, Jr.
Director

November 8, 2007

MANAGEMENT'S DISCUSSION AND ANALYSIS

About This Report

For FY 2007, the National Science Foundation (NSF) is producing an Annual Financial Report (AFR) in lieu of a consolidated Performance and Accountability Report (PAR), as part of our participation in the Office and Management and Budget (OMB) FY 2007 alternative PAR pilot, pursuant to Circular A-136, *Financial Reporting Requirements*. This FY 2007 Annual Financial Report focuses on the agency's financial performance, the results of the agency's annual financial audit, and compliance with the Federal Managers' Financial Integrity Act (FMFIA) and the Federal Financial Management Improvement Act (FFMIA). NSF's FY 2007 performance information will be included with the Foundation's FY 2009 Budget Request to Congress, which will be available on February 4, 2008. NSF believes that the integration of programmatic performance results with the agency's budget request enables the Foundation to demonstrate its leadership in incorporating the outcomes of its investments in *Discovery*, *Learning*, and *Research Infrastructure* in planning future directions. Integrating programmatic performance results with the agency's budget request is the most meaningful context to present this information. In addition, on February 1, 2008, NSF will distribute its seventh annual *Performance Highlights* report as the agency continues its ongoing commitment to be informative and accountable to its stakeholders, customers, and the public. All three documents will be available on NSF's website at www.nsf.gov.¹

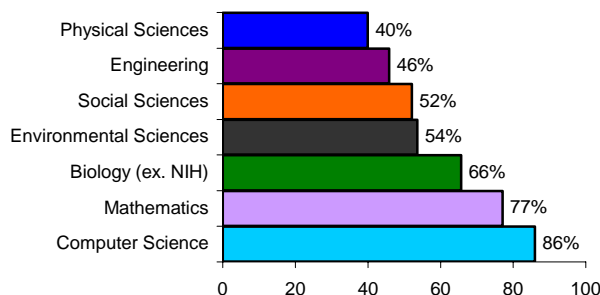
AGENCY OVERVIEW

Mission and Vision

The National Science Foundation was created by Congress in 1950, with a mission of promoting the progress of science and engineering in America. With a budget of nearly \$6 billion, NSF supports research across all fields of fundamental science and engineering and all levels of science and engineering education. NSF funds the best ideas and most promising people, searching out the frontiers of science and engineering to foster high-risk, potentially transformational research that will generate important discoveries and new technology. NSF is widely recognized as a catalyst for basic research as expressed in the NSF vision statement: Advancing discovery, innovation and education beyond the frontiers of current knowledge, and empowering future generations in science and engineering.

Although NSF's annual budget represents less than 5 percent of the total federal budget for research and development, NSF provides nearly half of the federal support for non-medical basic research at the Nation's colleges and universities.

Figure 1. NSF Support as a Percent of Total Federal Support of Academic Basic Research in Selected Fields



¹ The FY 2007 Annual Financial Report is available at www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf0802. NSF's FY 2009 Budget Request will be available on February 4, 2008, at www.nsf.gov/about/budget/. NSF's FY 2007 *Performance Highlights* will be available at www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf0803 on February 1, 2008.

In many fields, including computer science, mathematics, environmental sciences, the social sciences, and non-medical biology, NSF is the primary source of federal academic support (*Figure 1*).² This support of academic research is critical to sustaining future generations of world-class scientists and engineers who will develop the ideas and research tools needed to ensure America's leadership in an increasingly competitive global economy. Although NSF does not directly fund medical research, its support of basic research benefits medical science and related industries, leading to advances in diagnosis, regenerative medicine, drug delivery, and pharmaceutical design and processing.

NSF supports research and education through a competitive, merit-based review process that is recognized throughout government as the exemplar for effective and efficient use of public funds. Ninety percent of NSF funding is allocated through this merit-based, competitive process. Each year, approximately 46,000 members of the science and engineering community serve as panelists and proposal reviewers under the merit review process.³ In FY 2007, NSF received nearly 45,000 grant proposals and made 11,484 new awards, mostly to individual investigators or small groups of investigators in nearly 1,900 colleges, universities, and other public and private institutions throughout the United States. These awards directly involved an estimated 190,000 people, including researchers, teachers, and students from kindergarten through graduate school.

FY 2007 Science and Engineering Highlights

The following are some results reported by NSF-supported researchers in FY 2007:

- An international team of scientists has found that a dramatic change in the climate of tropical Africa may have significantly driven early human evolution. www.nsf.gov/news/news_summ.jsp?cntn_id=109984
- By weaving black carbon nanotubes into paper, engineers have created printable, flexible batteries that are more resilient than many existing batteries, yet can be cut and folded just like paper. www.nsf.gov/news/news_summ.jsp?cntn_id=109868
- An optical technology developed for detecting colon cancer holds promise for detecting pancreatic cancer and could lead to the first screening method for people who have no symptoms of the illness. www.nsf.gov/news/news_summ.jsp?cntn_id=109926
- Researchers discovered a novel bacterium that transforms light into chemical energy; it was discovered in three of the hot springs in Yellowstone National Park. www.nsf.gov/news/news_summ.jsp?cntn_id=109769
- An international study has shown that some types of bacteria can sense light, and that light exposure in a type of bacteria that causes diseases in humans and livestock increases the bacterium's virulence. www.nsf.gov/news/news_summ.jsp?cntn_id=110009&org=NSF&from=newsField
www.nsf.gov/news/news_summ.jsp?cntn_id=109923
- Using supercomputers, scientists are now dramatically speeding up their predictions of 3-D protein structures, which can play a crucial role in endeavors such as rational drug design. www.sdsc.edu/discoveries/discoveries.html
- The "Dark Web" project systematically collects and analyzes all terrorist-generated content on the Web using an array of advanced analysis techniques; it has become a major research test-bed for understanding propaganda, ideology, and operations of various terrorist groups. www.nsf.gov/news/news_summ.jsp?cntn_id=110040

For more information on the results of NSF-funded research, visit www.nsf.gov/news.

² Source: NSF/SRS/R&D Statistics Program, *Survey of Federal Funds for Research and Development, FY 2002-2004*.

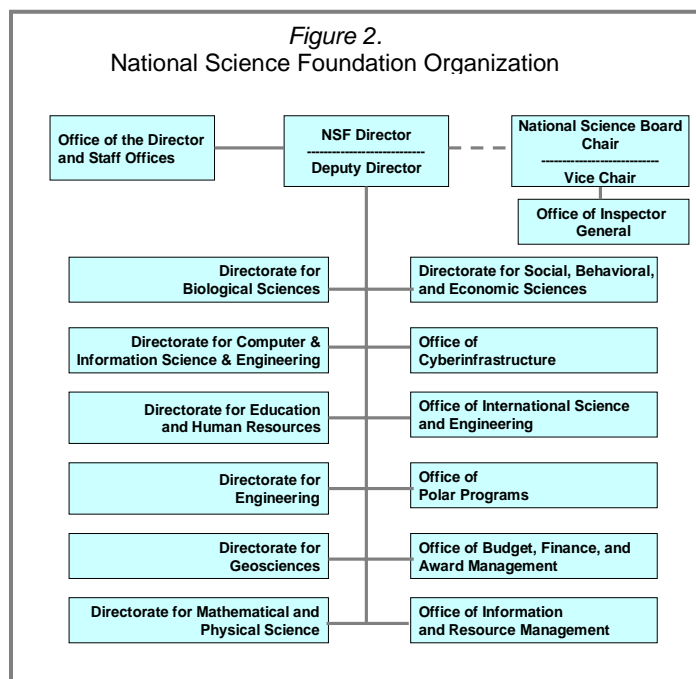
The Public Benefits of a Strong Science and Technology Enterprise

The results of U.S. investments in science and technology have long driven economic growth and improved the quality of life for successive generations. Science and technology have generated new knowledge and industries, created new jobs, provided new sources of energy, developed new modes of communication and transportation, and improved medical care. Today, more nations follow our lead in investing in science and technology, so the United States must maintain its leadership in scientific discovery and new technologies in order to remain globally competitive. In keeping with the President's American Competitiveness Initiative and the recently enacted America Competes Act, NSF invests in fundamental research that helps generate discoveries that spur innovation and lead to new technologies.⁴ NSF also supports world-class facilities and tools that are essential for transformational research. In addition, NSF's education portfolio supports the development of students with the science and mathematics skills that will enable them to participate in the 21st century global workplace.

For more than 50 years NSF has had an extraordinary impact on the Nation's scientific knowledge and capacity. NSF has funded the groundbreaking research of thousands of distinguished scientists and engineers including nearly 200 Nobel Prize winners.⁵ NSF-supported research underpins an array of important discoveries, among them the Internet, Web browsers, Doppler radar, Magnetic Resonance Imaging, and DNA fingerprinting. Moreover, advances at the frontiers of knowledge are critical for strengthening national security. Advanced capability in materials science research, sensors and sensor network architecture, cyber-security, and data mining have a direct impact on present and future homeland security systems and capacity.

Organizational Structure

NSF is headed by a Director who is appointed by the President and confirmed by the Senate (*Figure 2*). A 24-member National Science Board, also appointed by the President with the consent of the Senate, meets about six times a year to establish the overall policies of the Foundation.⁶ The NSF workforce includes approximately 1,300 full-time staff. NSF regularly recruits visiting scientists, engineers, and educators who are leaders in their fields. Recruiting active researchers and educators to fill rotating assignments infuses new talent and expertise into NSF and is integral to the NSF's mission of supporting the entire spectrum of science and engineering research and education, particularly



³ For more information about NSF's merit review process, see *Report to National Science Board on the NSF's Merit Review Process*, FY 2006, at www.nsf.gov/nsb/documents/2007/2006_merit_review.pdf.

⁴ For information about the American Competitiveness Initiative and the America Competes Act, see www.ostp.gov/html/budget/2008/ACIUUpdateStatus.pdf and www.whitehouse.gov/news/releases/2007/08/20070809-6.html.

⁵ For information about Nobel laureates who have received NSF support, see www.nsf.gov/news/news_summ.jsp?cntn_id=100683&org=NSF&from=news.

⁶ For more information about the National Science Board, see www.nsf.gov/nsb.

research at the frontier.⁷ In addition, NSF employs contractors who are engaged in commercial administrative activities.

President's Management Agenda

The President's Management Agenda (PMA) is a government-wide effort to improve the management, performance, and accountability of federal agencies. In the fourth quarter of FY 2007, NSF maintained its "Green" status in three of five primary initiatives (Figure 3).⁸

► NSF's status in the *Strategic Management of Human Capital* initiative is currently "Yellow," with "Green" in progress. NSF had maintained a "Green" status since 2005, but slipped into "Yellow" in the third quarter of FY 2007. NSF is working with the Office of Personnel Management (OPM) to satisfy the requirements that will allow the Foundation to regain its "Green" status.

► NSF's "Red" status in *Competitive Sourcing* remained unchanged.

► NSF has developed an integrated strategy to maintain its "Green" ratings in *Improving Financial Performance* and the *Performance Improvement Initiative*. The focus of efforts in 2007 has been developing and implementing a process to link data on obligations and expenditures for projects funded in NSF's Stewardship portfolio. Currently, the information is tracked at the contract level, which may involve multiple projects. By integrating financial and budgetary information, management can gain additional insight on current stewardship projects and improve planning for future projects.

► NSF is a federal leader in the use of information technology, actively promoting simpler, faster, more accurate, and less expensive electronic business solutions. The agency is actively engaged in supporting numerous *e-Gov* and Line of Business initiatives, including *Research.gov*, a partnership of federal research-oriented grant-making agencies led by NSF that is working to enhance customer service through streamlining and standardizing processes among partners. *Research.gov* will leverage the capabilities of FastLane — NSF's own Web-based system used by NSF customers to electronically conduct business with the agency — to deliver a single web portal for research institutions to find relevant information and conduct grants business with federal research agencies. Planned capabilities for FY 2008 and FY 2009 include a web portal which will provide e-authenticated access to shared services for grantee financial functions (such as financial reporting, grant payments and online inquiry), up-to-date status of grant applications and a policy library with federal-wide and agency-specific policies, guides, and terms and conditions. Security of information technology systems remains a high management priority. The FY 2007 Federal Information Security Management program review recognized NSF's strong information security and privacy programs as comprehensive and committed to continuous and sustained improvement.

**Figure 3.
President's Management Agenda Scorecard**

	Baseline	Status	Progress
	9/30/01	9/30/07	
Strategic Management of Human Capital	R	Y	G
Competitive Sourcing	R	R	R
Improving Financial Performance	G	G	G
Expanded E-Government	Y	G	Y
Performance Improvement Initiative	R	G	G
Notes:			
For the Eliminating Improper Payments Initiative, OMB has moved NSF from an annual to a three-year reporting cycle as a result of reporting low improper payments.			
Green (G) indicates success; Yellow (Y), mixed results; and Red (R), unsatisfactory. Ratings are issued quarterly by OMB.			

⁷ In September 2007, temporary appointments included 167 under the Intergovernmental Personnel Act and 42 under the Visiting Scientists, Engineers, and Educators Program.

⁸ For more information about the President's Management Agenda, see www.Results.gov.

Meeting Future Opportunities and Challenges

NSF faces significantly increased responsibilities in light of the President's American Competitiveness Initiative and the recently enacted America Competes Act. Both call for expanded federal investment to drive innovation and sharpen the Nation's competitive edge. NSF is positioned to maximize the opportunities this brings: NSF will direct its funding toward generating fundamental discoveries that produce valuable and marketable technologies; providing world class facilities and infrastructure that will transform research and enable discovery; and helping the Nation's science, technology, engineering, and mathematics workforce prepare for the 21st century while improving the quality of math and science education in U.S. schools. Of highest priority is the support of frontier research that meets pressing national needs in security, energy, health, and the environment.

NSF will also continue to participate in several government-wide initiatives. As the lead federal agency for the International Polar Year effort that concludes in March 2009, NSF supports research to understand the Earth's extreme latitudes at scales from the global to the molecular. In its leadership role in the Networking and Information Technology Research and Development (NITRD) initiative, NSF will continue to explore the computing frontier, stimulating research advances in new algorithms, architectures, languages, and systems and in emerging models of computing — all enabling applications yet to be imagined. NSF continues to provide critical support for the National Nanotechnology Initiative and lead the U.S. nanotechnology research effort. NSF will also remain actively engaged in *e-Gov* and the Grants Management Line of Business (GMLoB) initiative to streamline federal grants management activities, for which the agency is a co-managing partner and a consortium lead.

NSF has a long record of success in leveraging its agile, motivated workforce, management processes, and technological resources to enhance productivity and effectiveness and in maintaining costs for internal operations at roughly 5 percent of the agency's annual budget. However, the opportunities provided by the America Competes Act come at a time when the NSF workforce and infrastructure are being challenged by workload issues. The rise in multidisciplinary collaborative projects, international activities, and major research facility projects has increased the volume as well as the complexity of the Foundation's workload. While the Foundation's budget has grown 80 percent over the past 10 years and the number of competitive proposals has increased 48 percent, staffing has increased less than 10 percent. In addition, meeting new external administrative, oversight, and accountability requirements is an additional burden on limited staffing and funding resources.

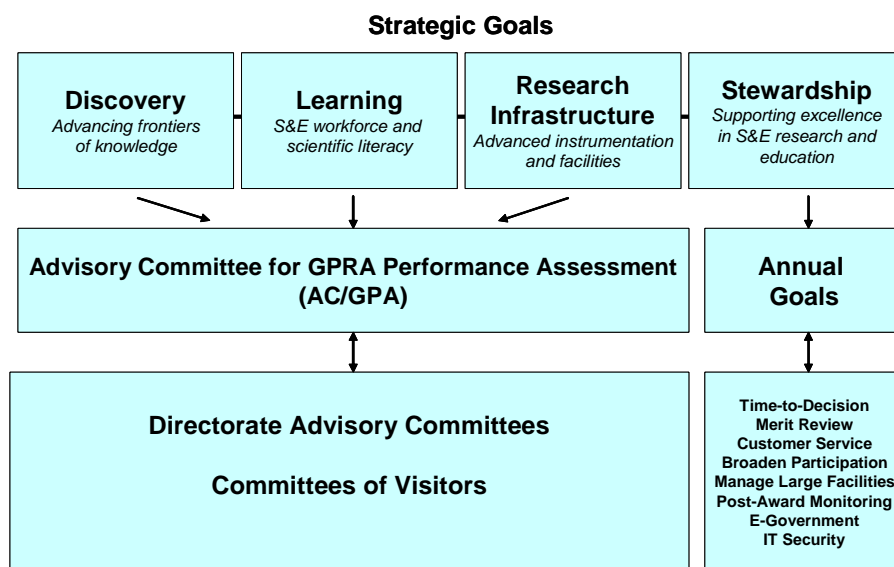
NSF management is analyzing various aspects of the agency's workload challenge. NSF has recently completed a study of the agency's administrative functions and a pilot program is currently underway to test the new organizational structure and operations procedures proposed by the study. A key facet of NSF's current human capital management activities is succession planning. A committee chaired by the Deputy Director was formed to examine current succession planning activities and define new strategies and initiatives to enhance the Foundation's ability to develop and recruit high-quality candidates for critical positions and quickly and effectively orient new, incoming staff.

Other management challenges have been identified by the NSF Office of Inspector General (OIG) in various areas including award and contract administration; human capital; budget, cost and performance integration; information technology; the U.S. Antarctic Program; and merit review. Many of these are long-term issues that the agency has been and continues to address. Included in Appendix 3b (page III-15) is a report on NSF's recent efforts in these areas.

PERFORMANCE HIGHLIGHTS

NSF's leadership in advancing the frontiers of science and engineering research and education is demonstrated, in part, through internal and external performance assessments. The results of this process provide stakeholders and taxpayers with vital information about the return on their investments. In FY 2007, performance assessment was guided by the Government Performance and Results Act of 1993 (GPRA), by OMB's Program Assessment Rating Tool (PART), and by NSF's *FY 2006–2011 Strategic Plan*.⁹ To accomplish its mission to promote the progress of science and engineering (S&E), NSF invests in the best ideas generated by scientists, engineers, and educators working at the frontier of knowledge and across all fields of research and education. NSF's *FY 2006–2011 Strategic Plan* establishes four overarching strategic outcome goals by which NSF measures its annual performance: *Discovery*, *Learning*, *Research Infrastructure*, and *Stewardship*. The four interrelated outcome goals establish an integrated strategy to deliver new knowledge at the frontiers, meet vital national needs, and work to achieve the NSF vision. The first three goals focus on NSF's long-term investments in science and engineering research and education. The fourth goal—*Stewardship*—is an internally focused goal that emphasizes effective and efficient management practices.

Figure 4.
NSF Performance Assessment Framework



FY 2007 Results

The results of three strategic goals—*Discovery*, *Learning*, and *Research Infrastructure*—are shown in *Figure 5*. The results for the remaining goals (under *Stewardship*) will be reported in NSF's FY 2009 Budget Request to Congress. The FY 2009 Budget Request will also include a discussion of NSF's performance assessment process, use of the R&D investment criteria, NSF's extensive data verification and validation process, trend data, and other performance-related information.¹⁰

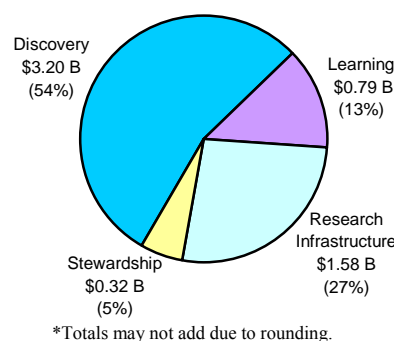
⁹ For information about NSF's PART assessments see www.ExpectMore.gov. NSF's *FY 2006–FY 2011 Strategic Plan* is available at www.nsf.gov/pubs/2006/nsf0648/nsf0648.jsp.

¹⁰ NSF's FY 2009 Budget Request will be available on February 4, 2008 at www.nsf.gov/about/budget.

Figure 5. FY 2007 Strategic Outcome Goals and Results	
	Results
<p>DISCOVERY: Foster research that will advance the frontiers of knowledge, emphasizing areas of greatest opportunity and potential benefit, and establishing the Nation as a global leader in fundamental and transformational science and engineering.</p> <p><i>FY 2007 Results:</i> Assessments by external experts determined that NSF has demonstrated significant achievement of this goal; the assessment process was verified and validated by an external, independent consultant.</p>	<ul style="list-style-type: none"> ● FY 2003 ● FY 2004 ● FY 2005 ● FY 2006 ● FY 2007
<p>LEARNING: Cultivate a world-class, broadly inclusive science and engineering workforce, and expand the scientific literacy of all citizens.</p> <p><i>FY 2007 Results:</i> Assessments by external experts determined that NSF has demonstrated significant achievement of this goal; the assessment process was verified and validated by an external, independent consultant.</p>	<ul style="list-style-type: none"> ● FY 2003 ● FY 2004 ● FY 2005 ● FY 2005 ● FY 2007
<p>RESEARCH INFRASTRUCTURE: Build the nation's research capability through critical investments in advanced instrumentation, facilities, cyberinfrastructure, and experimental tools.</p> <p><i>FY 2007 Results:</i> Assessments by external experts determined that NSF has demonstrated significant achievement of this goal; the assessment process was verified and validated by an external, independent consultant.</p>	<ul style="list-style-type: none"> ● FY 2003 ● FY 2004 ● FY 2005 ● FY 2006 ● FY 2007
<ul style="list-style-type: none"> ● Indicates successful achievement. 	

In FY 2007, *Discovery*, *Learning*, and *Research Infrastructure* accounted for 95 percent of NSF's investment portfolio (*Figure 6*). Outcomes under these goals are assessed annually by the Advisory Committee for GPRA Performance Assessment (AC/GPA), which comprises experts in various disciplines and fields of science, engineering, mathematics, and education. After reviewing over 1,100 outstanding accomplishments compiled by NSF program officers, award abstracts, investigator project reports, and Committees of Visitors (COV) reports, the advisory committee determined that for FY 2007, NSF had made significant achievements in the *Discovery*, *Learning*, and *Research Infrastructure* goals.¹¹ Moreover, the process of assessment by the AC/GPA advisory committee was itself reviewed and validated by an independent, external management consulting firm.

Figure 6.
FY 2007 Budget Obligations,
\$5.88 Billion*



Assessing Long-Term Research

GPRA requires federal agencies to develop a strategic plan, establish annual performance goals, and report annually on the progress made toward achieving these goals. NSF's mission is to fund long-term science and engineering research and education where outcomes and results can be unpredictable. Science and engineering research projects can generate discoveries in an unrelated area, and it can take years to recognize discoveries and their impact. Moreover, serendipitous results can be the most interesting and

¹¹ The FY 2007 AC/GPA report is available at www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf07207.

most important. Assessing the impact of advances in science and engineering is inherently retrospective and is best performed using the qualitative judgment of experts. The value of expert review was affirmed in the 2001 report from the Committee on Science, Engineering, and Public Policy (COSEPUP) of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.¹²

As shown in the Figure 4, NSF uses a multi-layer assessment approach, integrating quantitative metrics and qualitative reviews. The use of external experts to review results and outcomes is a longstanding practice in the academic community. NSF's use of such panels, such as the COVs and Advisory Committees, pre-dates GPRA. On broader issues, NSF often uses external third parties such as the National Academies for review. The Foundation also convenes external panels of experts for special studies.¹³

The AC/GPA was formed by NSF to provide an annual review of the agency's accomplishment with respect to the agency's GPRA strategic goals. The AC/GPA also provides recommendations to the NSF Director regarding NSF's performance under GPRA. Each year, the AC/GPA also provides recommendations on ways to improve the assessment process. A particular emphasis from the committee in FY 2007 was how well the material provided covered the full NSF portfolio. This will be a particular focus for the FY 2008 review.

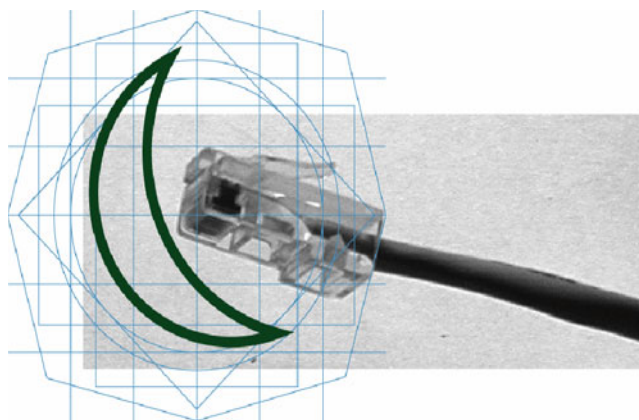
For *Stewardship*, NSF's goals are principally quantitative and focus on administration, management, and customer service.

Research Highlights

The following are examples of NSF-supported research results reported in FY 2007. Additional results can be found at www.nsf.gov/discoveries.

► Creating an Energy-Efficient Internet:

Researchers at the University of South Florida and the University of Florida are investigating new ways to reduce Internet energy consumption by reducing the energy wasted by idle network links and networked edge devices such as PCs and set-top boxes. These devices typically remain powered-up during frequent and lengthy periods of idleness. Estimates of the potential savings from this research are hundreds of millions of dollars per year in the United States alone. One goal of this project is to work with the energy efficiency community, government agencies, networking equipment manufacturers, and the



The image depicts the IEEE 1621 symbol for low-power sleep and an Ethernet connector. Together they symbolize the goal of reducing the energy used by ethernet networks. Credit: Bruce Nordman at LBNL.

¹² Quoting the report, *Implementing the Government Performance and Results Act for Research: A Status Report*: “Because we do not know how to measure knowledge while it is being generated and when its practical use cannot be predicted, the best we can do is ask experts in the field—a process called *expert review*—to evaluate research regularly while it is in progress. These experts, supplemented by quantitative methods, can determine whether the knowledge being generated is of high quality, whether it is directed to subjects of potential importance to the mission of the sponsoring agency, and whether it is at the forefront of existing knowledge—and therefore likely to advance the understanding of the field.” (National Academy of Sciences, Committee on Science, Engineering, and Public Policy; Washington, D.C., National Academy Press, 2001).

¹³ A schedule of NSF's program evaluations and a list of the external evaluations completed in FY 2007 will be included with the FY 2009 Budget Request.

standards bodies that govern networking equipment operation. The researchers are also working with the EPA Energy Star program to incorporate their research into new energy management specifications for new products.

► **Creating Effective Tools and Techniques for Visually Impaired Students in Chemistry:**

NSF-supported researchers have developed devices and lab procedures that allow blind and visually impaired students to conduct general chemistry laboratory experiments without the aid of sighted assistants. The research team at Penn State's Independent Laboratory Access for the Blind project (ILAB) has produced several devices for conducting chemistry experiments including a hand-held, submersible audible light sensor that fits in a test tube and converts light intensity to an audible signal. Another device the team created is an inexpensive portable color recognizer to detect the color of a substance in a beaker. The ILAB team also works with industry partners, including the Vernier Software and Technology Company, to make commonly used scientific software accessible to blind students who use speech output systems when conducting chemistry experiments independently.



Blind students independently conduct a chemistry experiment. Credit: Reprinted with permission from C&EN. Copyright 2007 American Chemical Society. Photograph by Linda Wang.

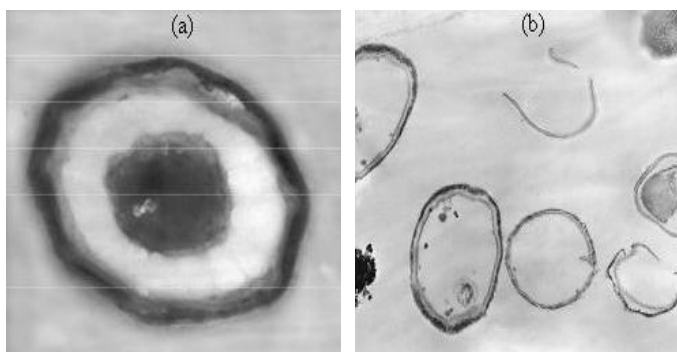


► **South Pole Telescope:** The largest telescope (10m) in Antarctica was successfully constructed and tested at the South Pole during the 100-day 2006–2007 summer season. Observations from this telescope will provide data for new insights into the topics of several national reports, including the 2000 Decadal Report on Astronomy and Astrophysics, the National Research Council's *Connecting Quarks with the Cosmos*, the Office of Science and Technology Policy report *Physics of the Universe*, and most recently the reports of the *Cosmic Microwave Background Task Force* and the *Dark Energy Task Force*.

South Pole Telescope. Credit: Photo courtesy United States Antarctic Program.

► **Using Visible Light to Destroy Pathogens in Water:**

Chemical byproducts from disinfecting water can be toxic or can cause cancer. A safer way to treat water uses light to destroy pathogens but problems with titanium dioxide catalysts have stymied this approach. Using nanomaterials, researchers at the NSF-supported Center of Advanced Materials for the Purification of Water with Systems, an NSF Science and Technology Center, developed effective titanium dioxide catalysts. This removes the primary obstacle to using light for water treatment and makes it possible to use visible light, rather than UV, to disinfect drinking water.



Transmission electron microscopy image of bacillus spores before (left) and after (right) photocatalytic treatment. Credit: Mark Shannon, University of Illinois.

MANAGEMENT ASSURANCES

The Federal Managers' Financial Integrity Act of 1982 (FMFIA) requires agencies to establish internal control and financial management systems that provide reasonable assurance that the integrity of federal programs and operations are protected in accordance with guidance provided by the Office of Management and Budget (OMB) Circular A-123, *Management's Responsibility for Internal Control*. In FY 2006, NSF established a program to identify and document all business processes and controls over those processes, assess their risk, and test the key controls in those processes. A scope limitation was imposed for the financial control review to allow the agency a three-year period to better ensure implementation of all A-123 Appendix A requirements. This was a strategic option offered by OMB to all agencies. Adopting this strategy precludes NSF from reaching a level of *full assurance* regarding controls for FY 2007, but better ensures that NSF will have in place the internal control infrastructure necessary to reach and maintain a level of full assurance at the close of FY 2008.

In FY 2007, NSF reviewed and evaluated significant entity-level control activities currently in place to support compliance with FMFIA and other applicable laws and regulations, which included (but was not limited to) the NSF Act of 1950, as amended; Annual Appropriation Law; Government Performance and Results Act of 1993; Clinger-Cohen Act of 1996; Federal Information Security Management Act of 2002; Chief Financial Officers Act of 1990, as amended; Federal Financial Management Improvement Act of 1996; Improper Payments Information Act of 2002; Single Audit Act of 1984, as amended; and the Inspector General Act of 1978, as amended.

NSF conducted a review of lessons learned from FY 2006 for its Accountability and Performance Integration Council (APIC), which is the equivalent of a Senior Assessment Team. NSF also implemented an Internal Controls Training Program for the APIC Internal Controls Working Group (ICWG) and our Business Process Owners (BPO). NSF managers continued to identify the processes that achieve the mission of the agency and the internal controls of its programs and administrative operations. Eight major processes and 38 sub-processes have been identified so far. NSF refined its risk assessment methodology to identify areas of inherent risk and used the results to target the controls for management's focus year-to-year. In FY 2008, NSF expects to have an internal control system that meets all the requirements of the revised A-123 guidance. The results of NSF's assessment of the adequacy of internal controls entity-wide, including financial controls, are reported in the NSF FY 2007 FMFIA Assurance Statement (see page I-11).

NSF conducted a review of its Financial Accounting System (FAS) in accordance with OMB Circular A-127 and the Federal Financial Management Improvement Act (FFMIA). Based on the results of the review we can provide reasonable assurance that our financial management systems substantially comply with federal financial management systems requirements, applicable federal accounting standards, and the U.S. Government Standard General Ledger (SGL) at the transaction level.

Based on the reviews conducted during the year, APIC and the Senior Management Round Table (SMaRT), with concurrence of the Chief Operating Officer/Deputy Director, recommended a statement of limited assurance to the NSF Director for FY 2007. The recommendation noted that management found no evidence of material weakness in either financial controls or entity-wide controls. The recommendation also noted that NSF internal controls meet the provisions of FMFIA, as implemented by A-123, including compliance with OMB Circular A-127, *Financial Management Systems*.

In the FY 2007 Independent Auditor's Report, NSF received an unqualified opinion of our financial statements, with no material weaknesses.¹⁴

¹⁴ See Appendix 1, page III-1, for Summary of Financial Statement and Management Assurances tables.

NSF FY 2007 Federal Managers' Financial Integrity Act
Assurance Statement

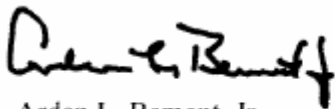
The National Science Foundation (NSF) is responsible for establishing and maintaining effective internal control and financial management systems that meet the objectives of the Federal Managers' Financial Integrity Act (FMFIA). These objectives are to ensure effective and efficient operations, compliance with applicable laws and regulations, and reliable financial reporting.

For Fiscal Year 2007, the Foundation is providing a qualified statement of assurance that its internal controls and financial management systems meet the objectives of FMFIA. This qualification is due to a scope limitation related to the agency's plan to implement Appendix A of OMB Circular A-123 over a three-year period, as described below.

NSF conducted its evaluation of internal control over the effectiveness and efficiency of operations and compliance with applicable laws and regulations in accordance with OMB Circular A-123. Based on the results of this evaluation, NSF identified no material weaknesses under Section 2 of FMFIA and no system nonconformances under Section 4 of FMFIA. NSF provides reasonable assurance that its internal controls over the effectiveness and efficiency of operations and its compliance with applicable laws and regulations, as of September 30, 2007, were operating effectively, and no material weaknesses were found in the design or operation of these internal controls.

NSF conducted its assessment of internal control over financial reporting in accordance with the requirements of Appendix A of OMB Circular A-123. A limited number of processes that could potentially impact financial reporting were not included in the scope of this assessment. These excluded processes will be included during the agency's FY 2008 internal control review. Other than the scope limitation covering those processes that were not tested, NSF provides reasonable assurance that the internal controls over financial reporting as of June 30, 2007, were operating effectively and no material weaknesses were found in the design or operation of these internal controls.

The Federal Financial Management Improvement Act of 1996 (FFMIA) requires agencies to implement and maintain financial management systems that are substantially in compliance with federal financial management systems requirements, federal accounting standards, and the United States Government Standard General Ledger at the transaction level. NSF financial management systems substantially comply with FFMIA.



Arden L. Bement, Jr.
Director
National Science Foundation

November 13, 2007

FINANCIAL DISCUSSION AND ANALYSIS

NSF's commitment to excellence, results-oriented management, and stewardship encompasses the agency's financial management arena. NSF's goal of excellence in financial management focuses on providing the highest business services to our customers, stakeholders, and staff through effective financial control, prompt and streamlined work processes, and reliable and timely financial information to support sound management decisions. The result has been an established record of effectiveness in federal financial management and a leadership role in government-wide grants management activities.

In FY 2007, NSF successfully maintained "Green" ratings in both the President's Management Agenda (PMA) financial performance initiative and the Department of Treasury's Financial Management scorecard. NSF also achieved top scores in the government-wide Chief Financial Officers (CFO) Council's financial management metrics. With respect to improper payments, since NSF has been below the OMB reporting threshold, the agency is now reporting on a three-year cycle.¹⁵ In addition, NSF implemented the new Federal Financial Report (FFR) for grant recipients and is participating in OMB's alternative PAR pilot. NSF has a leadership role in a number of federal initiatives, including the CFO Council Grants Policy Committee and the Grants Management Line of Business (GMLoB) initiative. Consistent with our leadership role, the agency is pursuing an integrated approach in its involvement with the grants and financial management lines of business initiatives.

As part of our stewardship commitment, NSF prepares annual financial statements in conformity with general accepted accounting principles (GAAP) of U.S. federal government entities and subjects them to an independent audit to ensure their integrity and reliability in assessing performance. For FY 2007, NSF received an unqualified audit opinion. The audit report noted no material weaknesses but included two significant deficiencies: Contract Monitoring (repeated from the prior year) and Property, Plant and Equipment Accounting and Reporting. NSF is addressing both deficiencies through a combination of process and system improvements. NSF's efforts in developing and implementing a comprehensive post-award monitoring program has resulted in the removal of last year's post-award monitoring deficiency.

Understanding the Financial Statements

NSF's FY 2007 financial statements and notes are presented in accordance with *OMB Circular No. A-136, Financial Reporting Requirements* dated June 29, 2007. NSF's current year financial statements and notes are presented in a comparative format. The Stewardship Investment schedule presents information over the last five years. Figure 7 summarizes the significant changes in NSF's financial position in FY 2007.

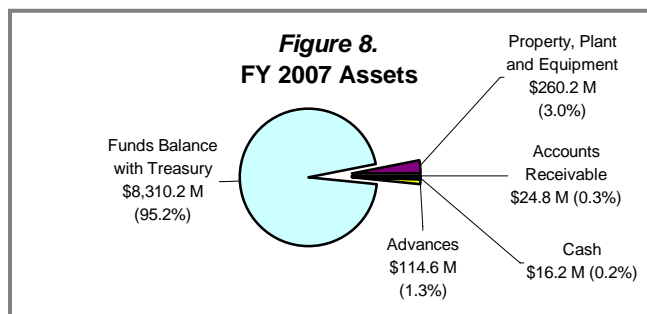
Figure 7.
Significant Changes in NSF's Financial Position in FY 2007
(Dollars in Thousands)

Net Financial Condition	FY 2007	FY 2006	Increase/ (Decrease)	% Change
Assets	\$8,726,006	\$8,247,611	\$478,395	6%
Liabilities	\$515,430	\$441,720	\$73,710	17%
Net Position	\$8,210,576	\$7,805,891	\$404,685	5%
Net Cost	\$5,636,129	\$5,595,761	\$40,368	1%

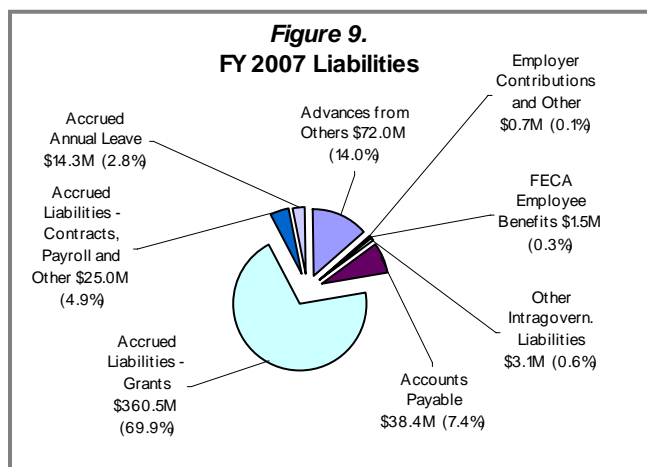
¹⁵ For more information on Improper Payments Information Act reporting, see Appendix 2, page III-3.

The following is a brief description of the nature of each required financial statement and its relevance. Certain significant balances or conditions are explained to help clarify their relationship to NSF operations.

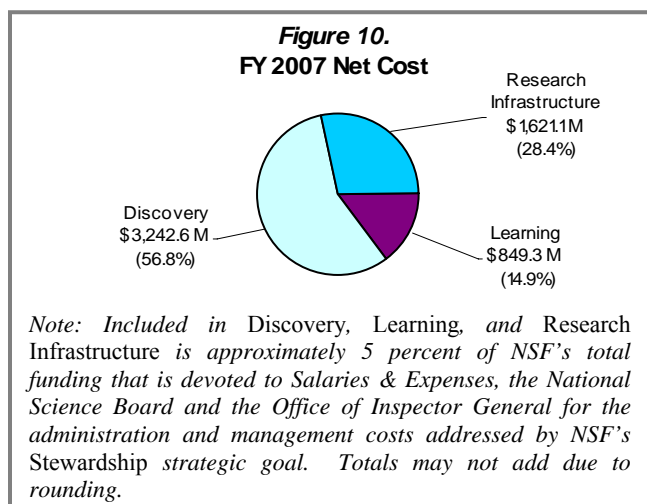
Balance Sheet: The Balance Sheet presents the total amounts available for use by NSF (assets) against the amounts owed (liabilities) and amounts that comprise the difference (net position). Three line items consisting of *Fund Balance with Treasury*; *Property, Plant and Equipment*; and *Advances* represent 99 percent of NSF's current year assets (*Figure 8*). *Fund Balance with Treasury* is funding available through the Department of Treasury accounts from which NSF is authorized to make expenditures and pay amounts due. *Property, Plant and Equipment* comprises capitalized property located at NSF headquarters and NSF-owned property in New Zealand and Antarctica that support the U.S. Antarctic Program (USAP). *Advances* are funds advanced to NSF grantees, contractors, and other government agencies.



Three line items, *Accounts Payable*, *Accrued Liabilities-Grants*, and *Advances from Others* represent 91 percent of NSF's current year liabilities (*Figure 9*). *Accounts Payable* includes liabilities to NSF vendors for unpaid goods and services received. *Accrued Liabilities-Grants* are amounts recorded for NSF's grants for which grantees have incurred costs but have not submitted their Federal Cash Transaction Reports (FCTR). *Advances from Others* represent payments received in advance from other federal agencies through interagency agreements for services that have not been performed.



Statement of Net Cost: This statement presents the annual cost of operating NSF programs. Gross cost less any offsetting revenue for each NSF program is used to arrive at the net cost of specific program operations. *Intragovernmental Earned Revenues* are recognized when these related program or administrative expenses are incurred and deducted from the full cost of the programs to arrive at the *Net Cost of Operation*. Approximately 95 percent of all current year NSF costs incurred were directly related to the support of the *Discovery*, *Learning*, and *Research Infrastructure* strategic goals. Costs were incurred for indirect general operation activities (e.g., salaries, training, activities



related to the advancement of NSF information systems technology, and activities of the NSB and the OIG). These costs were allocated to the *Discovery*, *Learning*, and *Research Infrastructure* strategic goals and account for 5 percent of the total current year *Net Cost of Operations*. These administrative and management activities are the focus of our *Stewardship* strategic goal.

Statement of Changes in Net Position: This statement presents the sum of cumulative net results of operation since inception and unexpended appropriations. NSF's Net Position increased to \$8.2 billion in FY 2007—an increase of five percent—due to the increase in *Unexpended Appropriations* and *Cumulative Results of Operations*. *Unexpended Appropriations* is affected mainly by *Appropriations Received* and *Appropriations Used*, with minor impact from a non-expenditure *Transfer* of \$5.7 million from the U.S. Agency for International Development (USAID).

Statement of Budgetary Resources: This statement provides information on how budgetary resources were made available to NSF for the year and the status of those budgetary resources at year-end. For FY 2007, new *Budgetary Authority* for Research and Related Activities, Education and Human Resources, Major Research Equipment and Facilities Construction, the combined National Science Board, OIG and Salaries & Expenses were \$4,666 million, \$797 million, \$191 million and \$264 million, respectively. *Total Budgetary Resources* increased by 5.0 percent and *Net Outlays* decreased slightly by 0.2 percent in FY 2007. The *Net Outlays* reported on this statement reflects the actual cash disbursed for the year by Treasury for NSF obligations and is reduced by the amount of *Distributed Offsetting Receipts*.

Stewardship Investments: NSF-funded investments yield long-term benefits to the general public. NSF investments in research and education yield quantifiable outputs, including the number of awards made and the number of researchers, students, and teachers supported or involved in the pursuit of discoveries in science and engineering and in science and math education. The incremental decrease in the net costs of Research and Human Capital Activities reflects a decrease in education and training activities. The increase in support to scientists, postdoctoral programs, and graduate students and the increase in the number of people directly involved in NSF-supported activities primarily reflect the increase funding in basic and applied research.

Limitations of the Financial Statements

In accordance with the revised guidance *OMB Circular No. A-136, Financial Reporting Requirements*, we are disclosing the following limitations of NSF's FY 2007 financial statements, which appear in Chapter II of this report: The financial statements have been prepared to report the financial position and results of operations of NSF, pursuant to the requirements of 31 U.S.C. 3515(b). While the statements have been prepared from NSF books and records in accordance with U.S. generally accepted accounting principles (GAAP) for federal entities and the format prescribed by OMB, the statements are in addition to the financial reports used to monitor and control budgetary resources, which are prepared from the same books and records. The statements should be read with the realization that they are for a component of the U.S. government, a sovereign entity.

Budgetary Integrity: NSF Resources and How They Are Used

NSF is funded primarily through six Congressional appropriations that totaled \$5.9 billion in FY 2007. Other FY 2007 revenue sources included \$106.0 million in reimbursable authority, \$5.7 million in appropriation transfers from other federal agencies, \$107.4 million in H-1B collections and \$41.3 million in donations to support NSF activities.¹⁶ NSF made investments in fundamental research and education to the Foundation's agency's three mission-oriented strategic outcome goals of *Discovery*, *Learning*, and

¹⁶ Donations of \$41.28 million include \$406,847 of interest earned on the donations received in FY 2007.

Research Infrastructure. About 5 percent of NSF's budget was for Stewardship activities focused on internal agency operations and award management activities.¹⁷

Major investments were made in Networking and Information Technology Research and Development; the National Nanotechnology Initiative; Cyberinfrastructure; Mathematical Sciences; International Polar Year; Biocomplexity in the Environment; and Human and Social Dynamics. NSF also supported education activities for students and teachers from pre-K through the post-doctoral level. Among major research facility and equipment projects supported were the Atacama Large Millimeter Array, which when completed will be the world's most sensitive, highest resolution, millimeter-wavelength telescope; EarthScope, a distributed geophysical instrument array that will enhance our understanding of the structure and dynamics of the North America continent; and the IceCube Neutrino Detector Observatory in Antarctica. At the time of this report, NSF had not yet received its FY 2008 appropriations.

Financial System Strategy

The goal of NSF's Financial Accounting System (FAS) is to provide quality business services to our customers through effective funds control, efficient award processes, and reliable and timely financial data to inform management decisions. FAS is a custom developed online, real-time system that provides the full spectrum of financial transaction functionality required by a grants-making agency and complies with government-wide rules and regulations for financial management systems .

FAS is integrated with NSF's core business systems, including the Proposal and Reviewer System (PARS), the Awards System, Guest (panelists) Travel and Reimbursement System, eTravel System and the FastLane System that supports grants management. FAS supports both the grant and core financial processes and is used to monitor, control, and ensure the management and financial accountability of over 20,000 active awards with nearly 1,900 external grantee institutions. FAS distributes funds electronically to grantees in a seamless and controlled environment and interfaces information to the FastLane system that allows grantees the ability to check available funds in real time on a daily basis. The reporting capabilities built into the FAS software include on-line lookups to verify funds, track commitments and obligations, and the ability to generate daily, weekly, monthly, and quarterly reports that provide up-to-date financial information about NSF operations for program and grantee decision support. All FAS-generated reports are posted electronically and are available to staff via *Report.web*, which is a web-based application that streamlines information distribution. In addition, information from FAS is captured and used in our Enterprise Information System.

NSF's ability to meet interface and integration requirements of any government-wide initiative (e.g. e-Travel and e-Learning), to adopt new legislative, regulatory, and policy requirements as they are promulgated, and to implement required technical upgrades is resource dependent. Consistent with NSF's eGovernment Implementation Plan, FAS will remain in a steady-state phase in the FY 2007-FY 2012 timeframe. The Financial Management Line of Business (FMLoB) continues to define government-wide standards that all agencies will be required to implement. In order to meet these new requirements, NSF is beginning to develop a strategy for our future financial management system that complies with the FMLoB guidelines. A key element for the future financial management system is to ensure that NSF continues to support fully integrated grant financial requirements within the financial system framework. NSF will analyze the FMLoB Shared Service Provide (SSP) options in 2008, leading to a Business Case

¹⁷ The FY 2007 budget was formulated under the FY 2003-2008 strategic plan which identified the agency's four strategic goals as *Ideas, People, Tools, and Organizational Excellence*, which are comparable to NSF's current strategic goals of *Discovery, Learning, Research Infrastructure, and Stewardship*, identified in NSF's FY 2006-2011 strategic plan. Also, in the FY 2008 Budget Request, the Salaries and Expenses appropriation was renamed Agency Operations and Award Management

Feasibility Study for the financial management system in 2009. NSF will also identify the interrelationships between the FMLoB and the GMLoB to ensure that all requirements will be identified to support NSF's status as a GMLoB Consortia Lead for grants management.

Key Financial Metrics

This section presents selected key financial measures of NSF's core business of awarding grants and our progress in associated electronic processes.

Since inception of the Department of Treasury's Financial Management Service Scorecard in FY 2004, NSF has consistently received the highest "Green" ratings for accuracy and timeliness of our financial reporting in the quarterly ratings (*Figure 11.*)



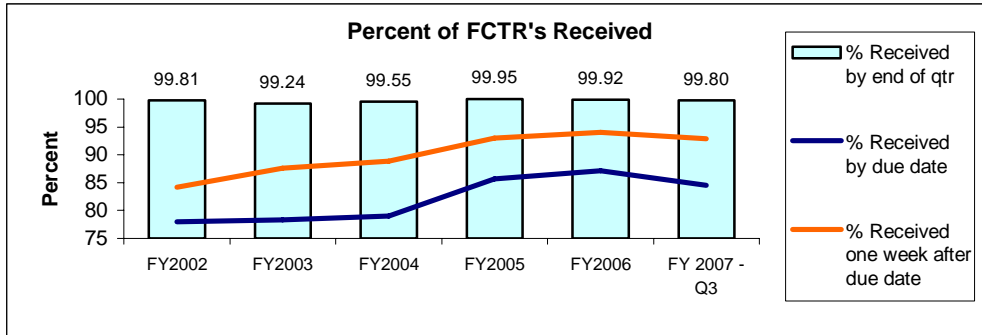
Figure 11.		
U.S. Department of Treasury Financial Management Scorecard		
Category	Standard	Results (as of 6/30/07)**
Accuracy of Reporting*	<i>Green:</i> If differences outstanding for less than 3 months. <i>Yellow:</i> If differences are older than 3 months but less than 6 months. <i>Red:</i> If differences are older than 6 months.	
Timeliness of Reporting*	<i>Green:</i> If original and supplemental reporting completed by the third workday. <i>Yellow:</i> If original submitted by the 3rd workday and supplemental report submitted on the 4th workday. <i>Red:</i> If original submitted after the 3rd workday and/or supplemental submitted after the 4th workday.	
Checks issued Comparison Reporting	<i>Green:</i> If differences outstanding for less than 3 months. <i>Yellow:</i> If differences are older than 3 months but less than 6 months. <i>Red:</i> If differences are older than 6 months. <i>N/A:</i> If agency does not have disbursing authority.	N/A
* FMS 224, SF1218/1221 and FMS 1219/1220. ** Most current data available.		

Figure 12.

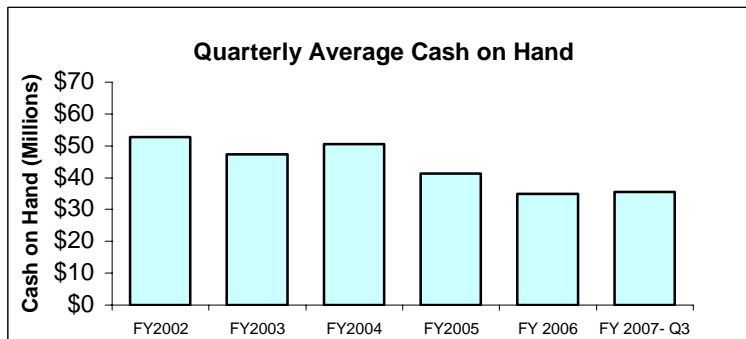


Note: Grantees are required to report the status of funds received from NSF on a quarterly basis through the submission of a Federal Cash Transaction Report (FCTR) or the Federal Financial Report (FFR). The reports are prepared and submitted by the grantee electronically to NSF through the FastLane Financial Function.

* FY 2007 Q3 is most current data available.

Figure 12 focuses on the SF 272 Federal Cash Transaction Report (FCTR) and Federal Financial Report (FFR) processes, key parts of NSF's core grant business. The FCTR/FFR collection rate is shown for the past five years. NSF routinely collects over 99.9 percent of all required FCTR/FFRs—a collection rate that significantly exceeds that of other federal agencies.

Figure 13.



* FY 2007 Q3 is most current data available.

Figure 13 shows the results of NSF's increased emphasis on enhanced FCTR monitoring activities implemented in January 2005. Unexpended federal cash held by grantees has dropped by an average of about \$14 million per quarter due to NSF monitoring activities, indicating improved cash management on the part of the NSF grantees.

Figure 14.

**CFO COUNCIL METRIC TRACKING SYSTEM
FINANCIAL MANAGEMENT INDICATORS**










Indicator	Definition	Standard	Data through 6/29/07
1. Fund Balance with Treasury (Net)	Identifies the difference between the fund balance reported in Treasury reports and the agency fund balance with Treasury recorded in its general ledger on a net basis.	Green: fully successful <= 2% Yellow: minimally successful > 2% - <= 10% Red: unsuccessful > 10%	 GREEN 0.0%
2. Amount in Suspense (Absolute) Greater than 60 Days Old	The timeliness of clearing and reconciling suspense accounts. This metric is reported quarterly.	Green: fully successful <= 10% Yellow: minimally successful > 10% - <= 20% Red: unsuccessful > 20%	 GREEN 0.0%
3. Delinquent Accounts Receivable from Public Over 180 days	The success in reducing or eliminating delinquent accounts receivable from the public. This metric is reported quarterly.	Green: fully successful <= 10% Yellow: minimally successful > 10% - <= 20% Red: unsuccessful > 20%	 RED 21.3%
4. Electronic Payments	The number of electronic payments measures the extent to which vendors are paid electronically.	Green: fully successful >= 96% Yellow: minimally successful >= 90% - < 96% Red: unsuccessful > < 90%	 GREEN 99.2%
5a. Percent Non-Credit Card Invoices Paid on Time	How many non credit card invoices are paid on time in accordance with the Prompt Payment Act (PPA).	Green: fully successful >= 98% Yellow: minimally successful >= 97% - < 98% Red: unsuccessful < 97%	 YELLOW 97.4%
5b. Interest Penalties Paid	The amount of interest penalties paid on late invoices relative to total dollars paid in accordance with the PPA.	Green: fully successful <= 0.02% Yellow: minimally successful > 0.02% - <= 0.03% Red: unsuccessful > 0.03%	 GREEN 0.011%
6a. Travel Card Delinquency Rates Individually Billed Account (IBA)	The percent of travel card balances outstanding over 61 days for Individually Billed Accounts (IBA).	Green: fully successful <= 2% Yellow: minimally successful > 2% - <= 4% Red: unsuccessful > 4%	 RED 6.2%
6b. Travel Card Delinquency Rates Centrally Billed Account (CBA)	The percent of travel card balances outstanding over 61 days for Centrally Billed Accounts (CBA).	Green: fully successful = 0% Yellow: minimally successful > 0% - <= 1.5% Red: unsuccessful > 1.5%	 GREEN 0.0%
6c. Purchase Card Delinquency Rates	The percent of purchase card balances outstanding over 61 days.	Green: fully successful = 0% Yellow: minimally successful > 0% - <= 1.5% Red: unsuccessful > 1.5%	 GREEN 0.0%

Figure 14 is NSF's CFO Metrics Tracking System (MTS) Scorecard for June 2007, the most recent data available. The MTS, sponsored by the CFO Council Committee on Performance Measurement, provides monthly details on core financial metrics across government. Indicator 3—the ratio of public receivables greater than 180 days to total receivables—was caused by a single delinquent debt out of the pool of NSF outstanding public receivables, causing the MTS score for NSF to experience an anomaly from the normal scoring it receives. NSF's receivables are generally among the lowest of all government agencies. A "Yellow" reported for Indicator 5a, "Percent Non-Credit Card Invoices Paid on Time," can be attributed to a minor change in interest paid which is not likely to continue over future monthly reports. Indicator 6a, "Travel Card Delinquency Rates Individually Billed," may continue to alternate between "Green" and "Red" until the NSF travel administration system, FedTraveler, becomes fully integrated into NSF's Financial Accounting System. Generally, since MTS was launched in January 2005, NSF has had the most consistently high scores of any government agency. To see scorecards and for additional information about the Metrics Tracking System, see <http://www.fido.gov/mts/cfo/public>.

In April 2007, NSF began participating in the Financial Management Services Metrics (FMSM) Program developed by the Financial Management Line of Business (FMLoB), in collaboration with the federal financial management community. The FMSM established a set of Financial Services Metrics that will facilitate an assessment of financial services government wide. FMSM metrics have been designed to

help identify opportunities to improve the performance and affordability of the financial services provided by Shared Service Providers and federal agencies. There is currently insufficient Program history to be able to assess the relative value or context of NSF's participation in this Program.

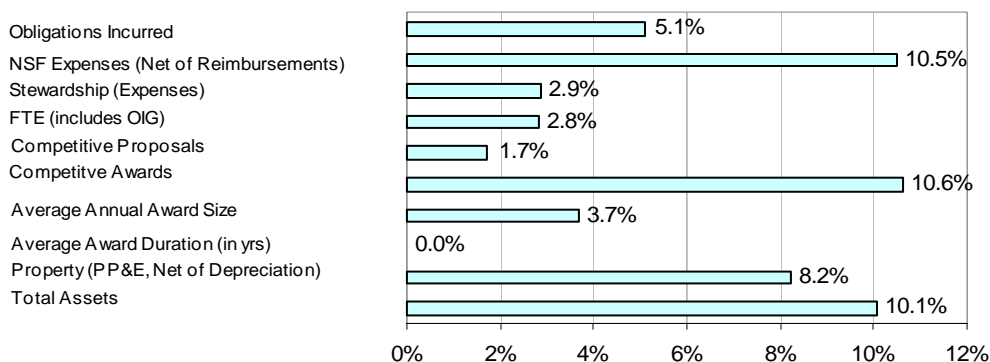
**Figure 15.
Recent Trends**

The following table summarizes several of NSF's key workload and financial indicators. Obligations are a direct result of each year's appropriation while expenses reflect multiple years of prior obligations. Of real significance is the 10.6 percent increase since FY 2004 in the number of competitive awards while staffing (FTE) has increased less than 3 percent.

(Dollars in Millions)

	FY 2004	FY 2005	FY 2006	FY 2007	%Change FY 04-07
Obligations Incurred	\$5,870.72	\$5,653.90	\$5,878.01	\$6,169.19	5.1%
NSF Expenses (Net of Reimbursements)	\$5,100.14	\$5,408.17	\$5,595.76	\$5,636.13	10.5%
Stewardship (Expenses)	\$268.30	\$292.43	\$321.09	\$275.99	2.9%
FTE (includes OIG)	1,274	1,279	1,277	1,310	2.8%
Competitive Proposals	43,851	41,760	42,377	44,598	1.7%
Competitive Awards	10,380	9,794	10,450	11,484	10.6%
Average Annual Award Size	\$139,637	\$143,669	\$134,595	\$144,804	3.7%
Average Award Duration (in yrs)	2.9	2.9	2.9	2.9	0.0%
Property (PP&E, Net of Depreciation)	\$240.44	\$257.56	\$261.35	\$260.21	8.2%
Total Assets	\$7,929.03	\$8,075.06	\$8,247.61	\$8,726.01	10.1%

Percent Change: FY 2004 to FY 2007



Future Business Trends and Events

The future will require a continued focus on management excellence through increased attention to specific financial operations and strategic issues. The PMA and other new administrative policy initiatives mandate that NSF, like other federal agencies, demonstrate consistent progress in improving financial management practices as well as adapt to changing management and policy initiatives. We are committed to leveraging technology and human capital resources to improve operations and services to our customers and stakeholders. In addition, we proactively address management challenges identified

through internal review and oversight. In this section, we describe some of the areas that the agency will be focusing on in both the immediate future and the long term.

OMB Circular A-123: NSF is in its second year of a three-year implementation plan for our internal controls program under the revised OMB Circular A-123, *Management Responsibility for Internal Controls, Appendix A* guidance. In FY 2007, NSF opted for a scope limitation and worked on a plan to ensure the Foundation's internal controls program will be fully implemented by the end of FY 2008. Several additional key business processes have been identified for documentation and testing in FY 2008. We have also refined our risk assessment process and FMFIA review program. These improvements are a key part of ensuring full compliance with A-123 by the end of FY 2008.

E-Travel: NSF is the lead agency in implementing EDS's FedTraveler, one of three government-wide approved e-Travel Presidential initiative systems. NSF is paving the way for other agencies to follow. In FY 2007, NSF staff continued to work with the vendor to correct ongoing issues with the system. NSF will continue efforts toward improving and enhancing the system to ensure that it fully supports the needs of the agency.

Federal Financial Report (FFR): As part of its implementation initiatives for the Federal Financial Assistance Management Improvement Act of 1999 (P.L. 106-107), OMB is consolidating and replacing existing grant recipient financial reporting forms with a single Federal Financial Report (FFR). The FFR provides grantees with a financial reporting process that will be common to all federal agencies while simplifying reporting requirements, procedures, and associated business processes. The FFR will utilize a standardized pool of data elements as defined by the Grants Policy Committee of the Federal Chief Financial Officers Council. NSF implemented the FFR in FastLane Financial Functions as an optional grantee expenditure report during July 2007. Additionally, NSF plans to develop a FFR within its *Research.gov* initiative that will be offered to other federal research-oriented agencies. NSF's FFR will assist OMB in advancing Federal Grants Streamlining initiatives, reinforce NSF leadership within the federal grants management arena, and maintain the customized integration of business processes and systems inherent in NSF's end-to-end systems. The FFR is in the final approval stages at OMB. After the form has received final approval, NSF will deactivate the Federal Cash Transaction Report (FCTR).

Financial Service Offerings of the NSF GMLoB: NSF has built a highly integrated financial and grants management process that has the flexibility to provide services to other agencies. As such, NSF is becoming a shared service provider with its *Research.gov* initiative within the Grants Management Line of Business (GMLoB) in a fee-for-service environment to other federal research agencies. NSF is in the process of developing financial service offerings that include grant payments, grantee financial reporting, and centralized grant accounting. These offerings will complement and extend the shared services to be offered for pre-and post-award grant management services. NSF financial services have the technical capability and management acumen, combined with proven business processes, which will provide a benefit to the federal research community.



A MESSAGE FROM THE CHIEF FINANCIAL OFFICER

Fiscal Year (FY) 2007 was a busy and successful one for the National Science Foundation (NSF), with a record number of proposals received and awards made—nearly 45,000 and 11,494, respectively. I am pleased to report the Foundation received an unqualified audit opinion, affirming that NSF's financial statements for the year ended September 30, 2007, were presented fairly in all material respects, in conformity with U.S. generally accepted accounting principals. The audit report noted no material weaknesses but included two significant deficiencies: Contract Monitoring (repeated from the prior year) and Property, Plant and Equipment Accounting and Reporting. NSF is addressing both deficiencies through a combination of process and system improvements. NSF's efforts in developing and implementing a comprehensive post-award monitoring program that is increasingly being recognized as a model in the federal government has resulted in the removal of last year's post-award monitoring deficiency.

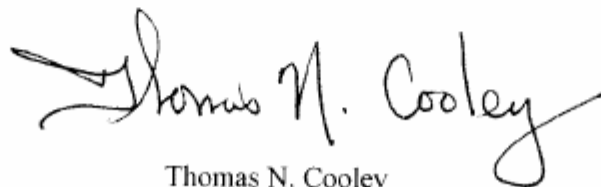
Sound financial management enables NSF to pursue the critical investments in science and engineering research and education that ultimately help ensure the Nation's security, prosperity, and well being. NSF's longstanding commitment to sound financial management practices focuses on providing the highest business services to our customers, stakeholders, and staff, including effective financial control, prompt and streamlined work processes, and reliable and timely financial information to support sound management decisions. NSF's Financial Accounting System (FAS) is an online, real-time system that provides the full spectrum of financial transaction functionality required by a grants-making agency. FAS will remain in steady-state phase in the FY 2007-2012 timeframe although we are beginning to strategically define future financial management system needs and how to meet Financial Systems Integration Office (FSIO) requirements.

Among NSF achievements of the past year are the following:

- Maintaining "Green" ratings for both the Financial Performance and the Performance Improvement initiatives on the President's Management Agenda scorecard. NSF has successfully sustained a "Green" rating for Financial Performance since inception of the PMA scorecard in 2001.
- Consistently receiving +99 percent of quarterly Federal Cash Transaction Reports (FCTR)—a collection rate that significantly exceeds that of other federal agencies. As part of the Federal Grants Streamlining Initiative, NSF has been working with the Office of Management and Budget (OMB) on a Federal Financial Report pilot to consolidate grant recipient financial reporting and replace the FCTR in FY 2008.

- Maintaining an active leadership role in the federal grants management arena including the CFO Council Grants Policy Committee and the Grants Management Line of Business Initiative. NSF is forging the integration of grants and financial management that should result in considerable cost and operations efficiencies. Similarly, NSF's participation in OMB's pilot for performance and accountability reporting for which we have prepared this *Annual Financial Report*, speaks to the Foundation's commitment to innovation—at both the frontier of science and engineering and at the management front.
- Receiving awards from two prestigious communications associations for excellence in annual reporting, for our annual *Performance Highlights* report. The Vision Award from the League of American Communications Professionals and the Blue Pencil Award from National Association of Government Communicators (NAGC) reinforce our commitment to be accountable to our stakeholders and the public for sound stewardship of the public's resources.

Lastly, I wish to note that this year's unqualified audit opinion marks ten consecutive years of clean audit opinions for the Foundation. As the requirements in financial oversight and accountability have continually increased over the decade, this accomplishment reflects the dedication and diligence of a talented staff that I am proud to lead.



Thomas N. Cooley
Chief Financial Officer
and Director of Budget, Finance, and Awards Administration

November 8, 2007

NATIONAL SCIENCE FOUNDATION
4201 Wilson Boulevard
ARLINGTON, VIRGINIA 22230




OFFICE OF
INSPECTOR GENERAL

NOV 10 2007

TO: Arden L. Bement, Jr., Director
Director, National Science Foundation

Steven C. Beering, Chair
Chair, National Science Board

FROM: Dr. Christine C. Boesz
Inspector General 

SUBJECT: Audit of the National Science Foundation's
Fiscal Years 2007 and 2006 Financial Statements

This memorandum transmits Clifton Gunderson LLP's financial statement audit report of the National Science Foundation (NSF) for Fiscal Years 2007 and 2006.

Results of Independent Audit

The Chief Financial Officer's (CFO) Act of 1990 (P.L. 101-576), as amended, requires NSF's Inspector General or an independent external auditor, as determined by the Inspector General, to audit NSF's financial statements. Under a contract monitored by the Office of Inspector General (OIG), Clifton Gunderson, an independent public accounting firm (IPA), performed an audit of NSF's Fiscal Years 2007 and 2006 financial statements. The contract required that the audit be performed in accordance with the Government Auditing Standards issued by the Comptroller General of the United States, and Bulletin 07-04, *Audit Requirements for Federal Financial Statements*, issued by the United States Office of Management and Budget.

Clifton Gunderson issued an unqualified opinion on NSF's financial statements. In its Report on Internal Control over Financial Reporting, Clifton Gunderson identified two significant deficiencies related to NSF's contract monitoring and accounting and reporting for property, plant, and equipment. Clifton Gunderson also reported that there were no instances in which NSF's financial management systems did not substantially comply with the requirements of the Federal Financial Management Improvement Act of

1996 (FFMIA) , and found no reportable noncompliance with laws and regulations it tested.

Management's response, dated November, 10, 2007, follows Clifton Gunderson's report.

Evaluation of Clifton Gunderson's Audit Performance

To fulfill our responsibilities under the CFO Act of 1990, as amended, and other related financial management legislation, the OIG:

- Reviewed Clifton Gunderson's approach and planning of the audit;
- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the audit at key points;
- Coordinated periodic meetings with NSF management to discuss audit progress, findings, and recommendations;
- Reviewed Clifton Gunderson's audit report to ensure compliance with Government Auditing Standards and Office of Management and Budget Bulletin No. 07-04; and
- Coordinated issuance of the audit report.

Clifton Gunderson LLP is responsible for the attached auditor's report dated November 10, 2007, and the conclusions expressed in the report. We do not express any opinion on NSF's financial statements, internal control, conclusions on compliance with laws and regulations, or on whether NSF's financial management systems substantially complied with FFMIA.

The Office of Inspector General appreciates the courtesies and cooperation NSF extended to Clifton Gunderson LLP and OIG staff during the audit. If you or your staff have any questions, please contact me or Deborah H. Cureton, Associate Inspector General for Audit.

Attachment

cc: Dr. Dan E. Arvizu, Chair Audit and Oversight Committee

INDEPENDENT AUDITOR'S REPORT

Dr. Christine C. Boesz
Inspector General, National Science Foundation

Dr. Steven Beering
Chairman, National Science Board

Dr. Arden L. Bement, Jr.
Director, National Science Foundation

In our audit of NSF for fiscal year (FY) 2007 we found:

- The NSF financial statements are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America;
- No material weaknesses in internal control over financial reporting (including safeguarding assets) and compliance with laws and regulations;
- Progress has been made in FY 2007 on the two control deficiency conditions noted in the FY 2006 auditor's report; however, certain matters relating to one of those conditions continue to exist and are reported herein as a significant deficiency. In addition a second significant deficiency was noted during our FY 2007 audit;
- No instances of noncompliance with the Federal Financial Management Improvement Act of 1996 (FFMIA);
- No instances of noncompliance with laws and regulations.

The following sections discuss in more detail: (1) these conclusions, (2) our conclusions on Management's Discussion and Analysis and other supplementary information, (3) our audit objectives, scope and methodology, and (4) agency comments and evaluation.

OPINION ON FINANCIAL STATEMENTS

The accompanying financial statements including the accompanying notes present fairly, in all material respects, in conformity with accounting principles generally accepted in the United States, NSF's assets, liabilities, and net position as of September 30, 2007 and 2006; and net costs; changes in net position and budgetary resources for the years then ended.

CONSIDERATION OF INTERNAL CONTROL

In planning and performing our audit, we considered NSF's internal control over financial reporting as a basis for designing our auditing procedures and to comply with the Office of Management and Budget (OMB) audit guidance for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of the entity's internal control over financial reporting.

Our consideration of internal control over financial reporting was for the limited purpose described in the preceding paragraph and would not necessarily identify all deficiencies in internal control over financial reporting that might be significant deficiencies or material weaknesses. However, as discussed below, we identified certain deficiencies in internal control over financial reporting that we consider to be significant deficiencies which adversely affect NSF's ability to meet the internal control objectives listed in the objectives, scope, and methodology section of this report, or meet OMB criteria for reporting matters under FMFIA.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects NSF's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control. We consider the two deficiencies described in **Exhibit I** to be significant deficiencies in internal control over financial reporting.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control. None of the significant deficiencies described in **Exhibit I** are considered material weaknesses.

As required by OMB Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, we considered NSF's internal control over Required Supplementary Stewardship Information by obtaining an understanding of the component's of NSF's internal control, determining whether these internal controls had been placed in operation, assessing control risk, and performing tests of controls. Our procedures were not designed to provide assurance on these internal controls. Accordingly, we do not provide an opinion on such controls.

As further required by OMB Bulletin No. 07-04, with respect to internal control related to performance measures reported in the Management Discussion and Analysis, we obtained an understanding of the design of significant internal controls relating to the existence and completeness assertions and determined whether they had been placed in operation. Our procedures were not designed to provide assurance on internal control over reported performance measures and, accordingly, we do not provide an opinion on such controls.

We also noted other matters involving internal control and its operation that are not considered significant deficiencies, but are communicated in a separate management letter.

SYSTEMS' COMPLIANCE WITH FFMIA REQUIREMENTS

Under the Federal Financial Management Improvement Act of 1996 (FFMIA), we are required to report whether the financial management systems used by NSF substantially comply with the Federal financial management systems requirements, applicable Federal accounting standards, and the United States Standard General Ledger (SGL) at the transaction level. To meet this requirement, we performed tests of compliance with FFMIA Section 803(a) requirements.

The objective of our audit was not to provide an opinion on compliance with FFMIA. Accordingly, we do not express such an opinion. However, our work disclosed no instances in which NSF's financial management systems did not substantially comply with Federal financial management systems requirements, Federal accounting standards or the SGL at the transaction level.

COMPLIANCE WITH LAWS AND REGULATIONS

Our tests for compliance with selected provisions of laws and regulations disclosed no instances of noncompliance that would be reportable under Government Auditing Standards or OMB audit guidance. However, the object of our audit was not to provide an opinion on overall compliance with laws and regulations. Accordingly, we do not express such an opinion.

STATUS OF PRIOR YEAR'S CONTROL DEFICIENCIES

As required by *Government Auditing Standards* and OMB Bulletin No. 07-04, we have reviewed the status of NSF's corrective actions with respect to the findings and recommendations included in the prior year's Independent Auditor's Report dated November 6, 2006. The prior year audit report noted two control deficiencies: 1) *Post-Award Oversight for High Risk Grants and Cooperative Agreements* and 2) *Contract Monitoring*. NSF management has implemented substantial changes to its Post-Award Oversight policies and procedures and, accordingly, the prior year finding is not considered a Significant Deficiency for purposes of this report. However, continued improvement is needed in Contract Monitoring policies and procedures, and it is included in this report (**Exhibit I**) as Significant Deficiency number one.

CONSISTENCY OF OTHER INFORMATION

Management's Discussion and Analysis, required supplementary information (including stewardship information), and other accompanying information contain a wide range of data, some of which are not directly related to the financial statements. We do not express an opinion on this information. However, we compared this information for consistency with the financial statements and discussed the methods of measurement and presentation with NSF officials. Based on this limited work, we found no material inconsistencies with the financial statements, accounting principles generally accepted in the United States, or OMB guidance.

OBJECTIVES, SCOPE AND METHODOLOGY

Management is responsible for (1) preparing the financial statements in conformity with accounting principles generally accepted in the United States, (2) establishing, maintaining, and assessing internal control to provide reasonable assurance that the broad control objectives of the Federal Managers' Financial Integrity Act (FMFIA) as codified in 31 U.S.C. 3512, are met, (3) ensuring that NSF's financial management systems substantially comply with FFMIA requirements, and (4) complying with other applicable laws and regulations.

We are responsible for obtaining reasonable assurance about whether the financial statements are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States. We are also responsible for: (1) obtaining a sufficient understanding of internal control over financial reporting and compliance to plan the audit, (2) testing whether NSF's financial management systems substantially comply with the three FFMIA requirements, (3) testing compliance with selected provisions of laws and regulations that have a direct and material effect on the financial statements and laws for which OMB audit guidance requires testing, and (4) performing limited procedures with respect to certain other information appearing in the Annual Financial Report.

In order to fulfill these responsibilities, we (1) examined on a test basis, evidence supporting the amounts and disclosures in the financial statements, (2) assessed the accounting principles used and significant estimates made by management, (3) evaluated the overall presentation of the financial statements, (4) obtained an understanding of NSF and its operations, (including safeguarding of assets), compliance with laws and regulations (including execution of transactions in accordance with budget authority), and performance measures reported in Management's Discussion and Analysis of the Annual Financial Report, (5) tested relevant internal controls over financial reporting, and compliance, and evaluated the design and operating effectiveness of internal control, (6) considered the process for evaluating and reporting on internal control and financial management systems under FMFIA, (7) tested whether NSF's financial management systems substantially complied with the three FFMIA requirements, and (8) tested compliance with selected provisions of certain laws and regulations.

We did not evaluate all internal controls relevant to operating objectives as broadly defined by the FMFIA, such as those controls relevant to preparing statistical reports and ensuring efficient operations. We limited our internal control testing to controls over financial reporting and compliance. Because of inherent limitations in internal control, misstatements due to error or fraud, losses, or noncompliance may nevertheless occur and not be detected. We also caution that projecting our evaluation to future periods is subject to risk that controls may become inadequate because of changes in conditions or that the degree of compliance with controls may deteriorate. In addition, we caution that our internal control testing may not be sufficient for other purposes.

We did not test compliance with all laws and regulations applicable to NSF. We limited our tests of compliance to those laws and regulations required by OMB audit guidance we deemed applicable to the financial statements for the fiscal year ended September 30, 2007. We caution

that noncompliance with laws and regulations may occur and not be detected by these tests and that such testing may not be sufficient for other purposes.

We performed our audit in accordance with auditing standards generally accepted in the United States; the standards applicable to the financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*.

AGENCY COMMENTS AND OUR EVALUATION

We have considered management's response (**Exhibit II**) and have concluded that no change is needed to our original findings, conclusions, or recommendations. We will evaluate the status of these findings during the FY 2008 audit.

This report is intended solely for the information and use of NSF's management, the National Science Board, NSF's Office of Inspector General, OMB, the Government Accountability Office, and the U.S. Congress, and is not intended to be, and should not be, used by anyone other than these specified parties.

Clifton Henderson LLP

Calverton, Maryland
November 10, 2007

**NATIONAL SCIENCE FOUNDATION
CONSIDERATION OF INTERNAL CONTROL
SIGNIFICANT DEFICIENCIES
September 30, 2007**

1. Contract Monitoring

Background:

In our fiscal year (FY) 2006 audit report we noted that NSF had significant weaknesses in its contract monitoring policies and procedures and, accordingly, we made three recommendations for improvement. Specifically we found that NSF did not have a comprehensive, risk-based system, including detailed post-award policies and procedures, in place to oversee and monitor its contract awards. In FY 2007, NSF expended approximately \$551 million on active contracts and interagency agreements for the delivery of products and services. Of this amount, \$212 million was disbursed through advance payment programs with three contractors, including \$148 million for logistical support of the U.S. Antarctic Program (USAP).

Conditions:

Although NSF has made some progress in addressing our FY 2006 recommendations, additional improvements are needed. The following paragraphs describe the changes NSF has made in FY 2007, and the specific conditions that continue to exist at September 30, 2007.

Quarterly Expenditure Report Reviews - NSF contracts with the Defense Contract Audit Agency (DCAA) to perform Quarterly Expenditure Report reviews (QER review program) for the three advance payment contractors. The QER's were performed based on an agreed upon set of procedures that included reconciling billing rates with the contractor's accounting system and contract rates. The QER reviews also compared accuracy of amounts to the contractor's accounting system. However, these reviews are not an adequate substitute for a comprehensive, risk-based system which is needed to provide management with material assurance that costs paid by NSF are valid and reasonable.

OIG Cost Incurred Reports - DCAA, under contract with the OIG, performed audits of costs incurred by NSF's largest contractor for the FYs 2000 through 2004. The cost incurred audits are an important tool to be used by management to assess overall contractor compliance with financial terms and conditions. These reports, issued in October 2005 and September 2006, identified over-billings, internal control weaknesses, and questioned costs of \$55.5 million. NSF has not taken final action to address \$35 million of these questioned costs. Since the findings in these prior year audits had not been resolved, further audits have not yet been performed for FY 2005 through 2007. Accordingly, based on the results to date, further questioned costs are likely.

Contracts Manual - In FY 2007, NSF updated its contract manual to include some specific policies and procedures for contract administration. Though such updates included some procedures for pre-award acquisition and contract administration planning, the changes were not

sufficiently comprehensive to meet the objectives of Federal requirements for contract oversight. NSF needs to develop procedures to include in-depth policy and guidance for implementing contract monitoring activities. For example, NSF needs to create a thorough process to assess contractual risk and implement risk mitigation plans to ensure that the requirements of the contracts are being met. Without a comprehensive set of controls in place to assess the risks faced from both external and internal sources, NSF cannot ensure that its contractors use Federal funds consistently with the objectives of the contract, and that funds are protected from waste, fraud, or mismanagement.

Effectiveness of Oversight Procedures - During our FY 2007 audit, we continued to find that NSF's oversight and contract monitoring activities were not completely effective. Specifically, we noted the following:

- NSF provided funds to a contractor without approving its annual program plan (APP). This plan establishes the authorized work and budget for the contract. The USAP contractor submitted its FY 2007 APP to NSF on September 15, 2006 for NSF's approval by September 30, 2006. However, NSF did not approve the APP until November 6, 2006 because of the uncertainty over the FY 2007 continuing resolution. Consequently, even though the contractor was provided with a temporary "not-to-exceed" funding level of \$144 million beginning October 1, 2006, the contractor was technically operating in FY 2007 without an officially approved APP. Providing funds to a contractor without an approved APP may result in the contractor performing work which NSF would not have authorized.
- NSF's largest contractor did not submit its contractually required monthly financial report. This report provides detailed budget and financial information for each project as detailed in the APP. Without such reports, NSF could not determine that the contractor spent contract funds as authorized.
- During our FY 2007 audit, we tested 49 procurement transactions. We noted several exceptions in our document review such as incomplete contract files, missing procurement documentation and recording errors. The exceptions noted in this limited sample testing are an indication that the untested population may have similar deficiencies. The specific exceptions noted are summarized as follows:
 - NSF was not able to provide the documentation evidencing the contracting officer's justification and approval of a sole source contract (a simplified acquisition exceeding \$100,000), or any research conducted to rationalize the fact that NSF precluded another supplier from providing services. In addition, the actual rationale used for sole source recommended by an IT specialist was brief and vague. Management was unable to provide all relevant documentation as required to be maintained by the Federal Acquisition Regulation (FAR). Noncompetitive procurements are vulnerable to fraud, abuse and waste.
 - In one of the procurement files tested, we noted the purchase order amount recorded in the general ledger exceeded the authorized purchase order. In addition, the requester and approver of the purchase requisition (PR) was the same individual,

and the PR was neither signed nor dated. Without appropriate segregation of duties, the risk that the procurement may be fraudulent increases.

- In one of the procurement files tested, NSF was not able to provide the PR to support the amount of commitment recorded in the general ledger. Without support documentation, the transactions recorded in the general ledger\financial statements may be inaccurate.
 - NSF did not calculate and make appropriate interest payments, in accordance with the Prompt Payment Act (PPA), for one invoice that was paid approximately two months after the payment due date. Without an automated invoice approval and payment tracking system, the risk of unnecessary interest payments and non-compliance with the Prompt Payment Act increases.
 - In seven procurement files examined, the incorrect object class code was used to record the transactions in the general ledger. These type errors could result in incorrect comparisons of actual to budget data, which OMB uses in its analysis of NSF's operations.
- The OIG also performed a review of certain aspects of NSF's contract monitoring processes, and its report dated October 1, 2007 noted similar weaknesses in NSF's contract monitoring program.

In summary, even though our testing did not result in material adjustments to NSF's financial statements, NSF's procedures were not adequate to ensure that contractors used NSF funds consistent with the objectives of the contract. In addition, contract funds may not have been adequately protected from waste, fraud, and mismanagement; laws and regulations may not have been followed; and reliable financial reports were not obtained for analysis.

Recommendations: We recommend that NSF management:

- 1) Approve the APPs prior to providing funds to the contractor, and modify the plan according to the final appropriation, if different from the original APP.
- 2) Expand the contract oversight program to include comprehensive post-award monitoring policies and procedures and training to ensure that the requirements of the contracts are being met. The policies and procedures should specifically include a methodology for identifying high risk contracts and instituting additional oversight and monitoring to address these risks.
- 3) Implement guidance in the contracts manual to ensure that a thorough review of contract folder is performed, and that documentation is complete without any material discrepancies between documents. In addition, the manual should emphasize the importance of approval for all procurement actions that are other than "full and open competition." Also, procedures to ensure a proper segregation of duties must be clearly described in the manual.
- 4) Continue the Quarterly Expenditure Report review program, but supplement that program by continuing to expand procedures detailed in the contracts manual. Additional testing

should be performed on the higher risk contracts and should also include testing to identify unreasonable and unrelated costs.

- 5) Resolve the outstanding OIG audits of NSF's largest contractor for FY 2000-2004. Coordinate with the OIG to determine the need for incurred cost audits for FYs 2005 through 2010, the end of the current contract.
- 6) Implement a system to track the status of the invoice from the invoice receipt to payment processing. The system should notify management of invoices that have not been processed using the PPA requirement to ensure the timely review by approving officials. In addition, when the invoice passes the 30 day payment deadline (unless specified otherwise), the system should calculate interest automatically and apply it to all vendor invoices processed for payment in excess of 30 day requirement.
- 7) Provide training to all employees (Approving Official, COTR, Administrative Officer, etc.) responsible for the acceptance of services and/or goods, reemphasizing due diligence responsibility for the timely review and payment of invoices.
- 8) Implement recommendations stated in the OIG's letter relating to contract monitoring dated October 1, 2007.

2. Property Plant & Equipment (PP&E) Accounting and Reporting

Background:

The Contract Monitoring finding in our FY 2006 audit report identified improvements needed in NSF's monitoring of its contractor responsible for approximately \$379 million of Property Plant and Equipment (PP&E) in Antarctica. NSF has made some progress this year; however, NSF's oversight of this contractor's acquisition and management of PP&E purchased with NSF funds continues to need improvement.

In response to our FY 2006 recommendations, NSF engaged a consultant to evaluate the feasibility of obtaining source documentation for acquisitions prior to FY 2007, as well as to validate a sample of FY 2007 property acquisitions and disposals. The consultant concluded that, based on information provided by the contractor, the cost to obtain supporting documentation for pre FY 2007 acquisitions exceeded the benefits. The consultant's work to validate FY 2007 property acquisitions and disposals did not identify any material exceptions. We performed a variety of internal control and substantive audit procedures, more extensive than those performed by the consultant, and identified several weaknesses in internal control.

Accordingly, due to NSF's extensive reliance on the contractor; the numerous, nonintegrated systems and manual processes used to account for property; the complexity and manual nature of the freight cost model; difficulties in obtaining supporting documentation of property transactions from its contractors; and errors that our testing identified; we consider these PP&E accounting and reporting weaknesses to collectively be a separate Significant Deficiency this year.

The continued weaknesses are detailed in the following areas:

- PP&E Transaction Processing
- Non-Integrated USAP PP&E Systems
- Freight Cost Model (FCM)

Each of these conditions is discussed separately below.

Conditions:

PP&E Transaction Processing

Our testing identified several exceptions related to timeliness of recording, lack of supporting documentation, and lack of proper authorization. Even though material adjustments were not needed to the property accounts at September 30, 2007, internal controls were not adequate to ensure reliability of reported PP&E balances.

Specifically, we noted a number of exceptions, listed below, which raise concerns about the adequacy of NSF's controls over financial reporting of PP&E activity.

- In 14 of the 48 transactions examined, the PP&E amounts were not recorded timely in the property accounts. Some transactions were recorded several months or years after the financial event occurred.
- We noted that certain accumulated Construction in Process costs, which should have been transferred to Real Property accounts when the asset was placed in service, were not transferred. Accordingly, NSF made a \$107 million adjustment to transfer Construction in Process to Real Property accounts in FY 2007, four years after the buildings were occupied. This adjustment represented over 70% of the existing balance of CIP.

Additionally, 3 of 16 Construction in Process to Real Property transfers tested were not supported by a signed conditional occupancy certificate, as required by NSF policy. Approved conditional occupancy certificates document substantial completion and safe condition for occupancy. Without these certificates, buildings may be occupied before they are ready for occupancy or buildings that may be ready for use may remain idle. In addition, the wrong asset category may be used in the accounting system affecting reported balances of both Construction in Process and Real Property accounts.

- In 1 of the 8 Construction in Process transactions examined, the employee's salary adjustment for labor costs relating to the project was not signed by the authorized official. Therefore, NSF does not have assurance that the labor charged to Construction in Process accounts benefited the NSF contract, and was charged at the correct rate.
- In 3 of the 16 Real Property demolition transactions examined, there were some email communications on the proposed demolition; however, it is unclear whether the demolitions were actually authorized because a final acceptance certificates for the asset demolition was not prepared.

- In 9 of the 24 Capital Equipment transactions examined, we noted one instance of missing purchase requisition and purchase orders. Therefore, it is unclear if the purchase was authorized. We also noted two instances of improperly calculated and recorded freight cost model amounts, which affects the accuracy of the amounts reported on the financial statements. Finally we noted six instances of two different NSF ID numbers (asset identifier) assigned to the same piece of equipment which impairs accountability of these assets

Non-Integrated USAP PP&E Systems

NSF and its contractor use at least five systems to capture and report PP&E activities for the USAP. Financial information from these systems is not integrated with NSF's general ledger system, Financial Accounting System. In addition, a majority of USAP PP&E financial activities are recorded using software owned by the Contractor that NSF may not have access to or a license to use after the contract expires in 2010.

The lack of an integrated PP&E system to track financial activities results in the contractor and NSF personnel performing a variety of manually intensive and time consuming procedures, which are prone to errors, to generate information for NSF's financial statements. For example, we noted that certain data elements take several months to process, and it takes a substantial amount of time for the contractor to provide supporting documentation to management and auditors for property transactions during the year. In addition, NSF management cannot record these assets until it receives the manually generated reports from the contractor resulting in inaccurate expense and asset reporting during a majority of the year. An integrated PP&E system would ultimately improve the integrity, accuracy, accountability, completeness, and timeliness of reporting PP&E activities in NSF's financial statements.

In summary, the PP&E accounting systems used by NSF and its contractor, combined with the manual processes performed to record PP&E, pose an abnormally high risk that financial data supporting the PP&E balances may be inaccurate, which could result in NSF's financial statements being misstated throughout the year.

Freight Cost Model (FCM)

NSF uses the Freight Cost Model (FCM) to calculate the cost of transporting PP&E to the Antarctic and is another example of the manual nature of NSF's property accounting process. The FCM, developed in 1997, is a complicated analysis prepared using Excel. The FCM is updated annually, using an average of the previous three years' rates to compute the rate for the current year. Maintaining this model requires significant contractor resources.

The data used in the FCM is derived from information (i.e. manual spreadsheets, third party reports, and e-mails, etc.) obtained from various groups including NSF management, its Contractor, and third parties. Consequently, compiling the data for the FCM is a lengthy and cumbersome process, and it is not conducive to providing timely reporting to NSF of PP&E freight activities and balances for its financial statements. In addition, since the Excel file can be easily manipulated, the results are prone to both data entry and calculation errors.

Recommendations:

Our recommendations are summarized pursuant to the three areas of concern as follows:

PP&E Transaction Processing Oversight

1. We recommend that management continue to validate a sample of assets acquisitions and disposals each year. This process should include comparing amounts reported in the PP&E accounts to detailed supporting documentation provided by the contractor on a test basis throughout the year (sampling both large and smaller purchases).

The validation program should also include tests of internal controls implemented by the contractor, such as a determination of proper authorizations, proper property categorization and valuation, proper tracking/tagging of assets, and timeliness of recording transactions in the accounting system, etc. As applicable, management should ensure that appropriate managerial cost accounting principles used in costing items are reviewed periodically for reasonableness.

The validation process for future years should initially test 75 % of the year's property activity; however, as the nature and extent of exceptions decline, such coverage could be reduced. Documentation and other data reviewed during this validation process should be electronically maintained by NSF. In addition, until the current FCM is revised, management should continue to examine documentation supporting the calculations used.

2. We recommend that management consider obtaining independent cost appraisals for any specific large construction or completed building projects where actual cost documentation is not readily available, or if it appears that the Construction in Process or Real Property no longer functions as originally intended or is no longer safe for use.
3. We recommend that NSF periodically confirm with the contractor the status and availability for use of property under construction.
4. We recommend that management include a provision in the next contract requiring the contractor to provide electronic copies of all significant documentation supporting the cost of property transactions.

Integrated PP&E Accounting System for USAP

5. We recommend that NSF develop a plan to implement an integrated entity-wide property management system that would fully automate the recording, tracking, and analysis of all PP&E accounting processes. Due to the materiality of the Antarctic program (USAP), the plan should consider incorporating a requirement in the upcoming USAP Statement of Work for the contractor to provide an accounting system for PP&E in the Antarctic to support the entity-wide system. The total NSF

property system should include an interface with NSF's general ledger and allow ready access to those requiring financial information of property transactional activity. To accomplish this interface with the general ledger, the transaction code structure in the general ledger will need to be revised.

6. Prior to 2010, NSF should ensure that if the current contractor is not selected to continue its USAP service that NSF will have access to, or a license to use, the existing software while a new property management system is being implemented.

Freight Cost Estimation Model

7. We recommend that management implement procedures to streamline the calculation of the FCM and improve the accuracy and timeliness of reporting transportation costs to the Antarctic. Changes to the FCM should not wait until the integrated accounting system, recommended above, is implemented. The revised methodology should be reviewed annually to ensure continued relevance of the managerial cost accounting methodology, and that the assumptions and calculations used in the developing and maintaining the model are reasonable.


**NATIONAL SCIENCE FOUNDATION
MANAGEMENT'S RESPONSE TO FY 2007
INDEPENDENT AUDITOR'S REPORT
November 10, 2007**

NATIONAL SCIENCE FOUNDATION

4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NOV 10 2007

To: Christine C. Boesz
Inspector General

From: Thomas N. Cooley 
Chief Financial Officer

Subject: Management's Response to Independent Auditor's Report for
Fiscal Year 2007

I welcome the National Science Foundation's (NSF) Audit Report for its Fiscal Year (FY) 2007 Financial Statements. For the tenth consecutive year we have achieved a clean opinion on the Financial Statements.

The achievement of this unqualified opinion was due to the high level of technical expertise, and commitment demonstrated by both of our organizations. During the audit process, NSF worked in partnership with the audit team to provide timely and constructive information to improve our financial reporting.

The years of hard work by NSF in developing and strengthening our post award monitoring program reached an important milestone. I am proud of NSF's achievement in closing the FY 2006 Reportable Condition on "Post-Award Oversight for High Risk Grants and Cooperative Agreements".

NSF concurs with the significant deficiencies described in your report. The Foundation continued to make progress during FY 2007 in addressing financial management deficiencies in contract monitoring and property, plant and equipment accounting and reporting. Corrective actions are either underway or will be in place to address each one of these issues. NSF will provide a detailed corrective action plan that highlights its activities to resolve these matters.

The Foundation is committed to continuing efforts to improve management over agency programs and to better serve our stakeholders and taxpayers. We appreciate the continuing professional, cooperative relationship that exists with both Clifton Gunderson and the Office of Inspector General.

copies: Dr. Arden L. Bement, Jr.
Dr. Kathie Olsen



National Science Foundation

FINANCIAL STATEMENTS
as of and for the years ended
September 30, 2007 and 2006

National Science Foundation
Balance Sheet
As of September 30, 2007 and 2006
(Amounts in Thousands)

Assets	<u>2007</u>	<u>2006</u>
Intragovernmental Assets		
Fund Balance With Treasury (Note 2)	\$ 8,310,182	\$ 7,823,954
Accounts Receivable	24,561	37,530
Advances (Note 3)	35,255	35,189
Total Intragovernmental Assets	<u>8,369,998</u>	<u>7,896,673</u>
Cash and Other Monetary Assets		
Cash and Other Monetary Assets	16,228	12,941
Accounts Receivable, Net	247	139
Advances (Note 3)	79,326	76,511
General Property, Plant and Equipment, Net (Notes 4 and 5)	260,207	261,347
Total Assets	<u>\$ 8,726,006</u>	<u>\$ 8,247,611</u>
Liabilities		
Intragovernmental Liabilities		
Advances From Others	\$ 72,018	\$ 1,593
Employer Contributions and Other	745	712
FECA Employee Benefits	292	284
Other Intragovernmental Liabilities (Notes 6 and 8)	3,050	3,050
Total Intragovernmental Liabilities	<u>76,105</u>	<u>5,639</u>
Accounts Payable	38,358	43,932
FECA Employee Benefits	1,182	1,287
Accrued Liabilities - Grants	360,475	347,737
Accrued Liabilities - Contracts, Payroll, and Other	25,046	29,233
Accrued Annual Leave	14,264	13,892
Total Liabilities	<u>\$ 515,430</u>	<u>\$ 441,720</u>
Commitments and Contingencies (Note 8)		
Net Position		
Unexpended Appropriations - Other Funds	\$ 7,587,271	\$ 7,255,489
Cumulative Results of Operations - Earmarked Funds (Note 9)	334,664	279,282
Cumulative Results of Operations - Other Funds	288,641	271,120
Total Net Position	<u>8,210,576</u>	<u>7,805,891</u>
Total Liabilities and Net Position	<u>\$ 8,726,006</u>	<u>\$ 8,247,611</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Net Cost
For the Years Ended September 30, 2007 and 2006
(Amounts in Thousands)

Program Costs	<u>2007</u>	<u>2006</u>
Research and Related Activities		
Gross Costs	\$ 4,507,933	\$ 4,514,053
Less: Earned Revenues	<u>(68,500)</u>	<u>(109,254)</u>
Net Research and Related Activities	<u>4,439,433</u>	<u>4,404,799</u>
Education and Human Resources		
Gross Costs	\$ 904,482	\$ 925,385
Less: Earned Revenues	<u>(8,270)</u>	<u>(16,566)</u>
Net Education and Human Resources	<u>896,212</u>	<u>908,819</u>
Major Research Equipment and Facilities Construction		
Gross Costs	\$ 222,926	\$ 191,597
Less: Earned Revenues	<u>-</u>	<u>-</u>
Net Major Research Equipment and Facilities Construction	<u>222,926</u>	<u>191,597</u>
Costs Not Assigned to Other Programs		
Gross Costs	\$ 77,558	\$ 90,546
Less: Earned Revenues	<u>-</u>	<u>-</u>
Net Costs Not Assigned to Other Programs	<u>77,558</u>	<u>90,546</u>
Net Cost of Operations (Note 10)	<u>\$ 5,636,129</u>	<u>\$ 5,595,761</u>

The accompanying notes are an integral part of these statements.

**National Science Foundation
Statement of Changes in Net Position
For the Year Ended September 30, 2007
(Amounts in Thousands)**

	<u>2007</u>		
	<u>Earmarked</u>	<u>All Other</u>	<u>Total</u>
Cumulative Results of Operations			
Beginning Balances (Note 9)	\$ 279,282	271,120	550,402
Budgetary Financing Sources			
Appropriations Used	-	5,552,427	5,552,427
Non-exchange Revenue	-	407	407
Donations	-	40,874	40,874
Appropriated Earmarked Receipts Transferred In	107,359	-	107,359
Other Financing Sources			
Transfers In / (Out) Without Reimbursement	-	(2)	(2)
Imputed Financing From Costs Absorbed By Others	-	9,336	9,336
Other	-	(1,369)	(1,369)
Total Financing Sources	<u>107,359</u>	<u>5,601,673</u>	<u>5,709,032</u>
Net Cost of Operations (Note 10)	<u>51,977</u>	<u>5,584,152</u>	<u>5,636,129</u>
Cumulative Results of Operations (Note 9)	<u>\$ 334,664</u>	<u>288,641</u>	<u>623,305</u>
Unexpended Appropriations			
Beginning Balances	\$ -	7,255,489	7,255,489
Budgetary Financing Sources			
Appropriations Received	-	5,917,165	5,917,165
Appropriations Transferred In / (Out)	-	5,710	5,710
Other Adjustments	-	(38,666)	(38,666)
Appropriations Used	-	(5,552,427)	(5,552,427)
Total Budgetary Financing Sources	<u>-</u>	<u>331,782</u>	<u>331,782</u>
Total Unexpended Appropriations	<u>-</u>	<u>7,587,271</u>	<u>7,587,271</u>
Net Position	<u>\$ 334,664</u>	<u>7,875,912</u>	<u>8,210,576</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Changes in Net Position
For the Year Ended September 30, 2006
(Amounts in Thousands)

	<u>2006</u>		
	<u>Earmarked</u>	<u>All Other</u>	<u>Total</u>
Cumulative Results of Operations			
Beginning Balances (Note 9)	\$ 217,955	281,141	499,096
Budgetary Financing Sources			
Appropriations Used	-	5,501,447	5,501,447
Non-exchange Revenue	-	278	278
Donations	-	31,142	31,142
Appropriated Earmarked Receipts Transferred In	105,324	-	105,324
Other Financing Sources			
Transfers In / (Out) Without Reimbursement	-	(257)	(257)
Imputed Financing From Costs Absorbed By Others	-	9,151	9,151
Other	-	(18)	(18)
Total Financing Sources	<u>105,324</u>	<u>5,541,743</u>	<u>5,647,067</u>
Net Cost of Operations (Note 10)	43,997	5,551,764	5,595,761
Cumulative Results of Operations (Note 9)	<u>\$ 279,282</u>	<u>271,120</u>	<u>550,402</u>
 Unexpended Appropriations			
Beginning Balances	\$ -	7,198,420	7,198,420
Budgetary Financing Sources			
Appropriations Received	-	5,653,370	5,653,370
Appropriations Transferred In / (Out)	-	7,975	7,975
Other Adjustments	-	(102,829)	(102,829)
Appropriations Used	-	(5,501,447)	(5,501,447)
Total Budgetary Financing Sources	<u>-</u>	<u>57,069</u>	<u>57,069</u>
Total Unexpended Appropriations	<u>-</u>	<u>7,255,489</u>	<u>7,255,489</u>
Net Position	<u>\$ 279,282</u>	<u>7,526,609</u>	<u>7,805,891</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Budgetary Resources (page 1 of 2)
For the Years Ended September 30, 2007 and 2006
(Amounts in Thousands)

	<u>2007</u>	<u>2006</u>
Budgetary Resources		
Unobligated Balance - Brought Forward, October 1	\$ 203,544	\$ 243,674
Recoveries of Prior Year Unpaid Obligations	44,474	44,781
Budget Authority		
Appropriation	6,065,805	5,790,114
Spending Authority From Offsetting Collections		
Earned		
Collected	90,844	124,165
Change in Receivables From Federal Sources	(12,972)	1,705
Change in Unfilled Customer Orders		
Advance Received	70,425	(13,577)
Without Advance From Federal Sources	(41,296)	(14,458)
Subtotal - Budget Authority	<u>6,172,806</u>	<u>5,887,949</u>
Nonexpenditure Transfers, Net	5,710	7,975
Permanently Not Available	(38,666)	(102,829)
Total Budgetary Resources (Note 13)	<u>\$ 6,387,868</u>	<u>\$ 6,081,550</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Budgetary Resources (page 2 of 2)
For the Years Ended September 30, 2007 and 2006
(Amounts in Thousands)

	<u>2007</u>	<u>2006</u>
Status of Budgetary Resources		
Obligations Incurred		
Direct (Note 12)	\$ 6,063,147	\$ 5,777,489
Reimbursable (Note 12)	106,044	100,517
Total Obligations Incurred (Notes 13 and 15)	<u>6,169,191</u>	<u>5,878,006</u>
Unobligated Balance - Apportioned (Note 2)	141,709	120,872
Unobligated Balance - Not Available (Notes 2 and 13)	76,968	82,672
Total Status of Budgetary Resources (Note 13)	<u>\$ 6,387,868</u>	<u>\$ 6,081,550</u>
Change in Obligated Balances		
Obligated Balance, Net		
Unpaid Obligations - Brought Forward, October 1	7,747,341	7,570,194
Less: Uncollected Customer Payments From Federal Sources - Brought Forward, October 1	(126,930)	(139,683)
Total Unpaid Obligated Balance, Net	<u>7,620,411</u>	<u>7,430,511</u>
Obligations Incurred (Note 13)	6,169,191	5,878,006
Less: Gross Outlays	(5,691,662)	(5,656,078)
Less: Recoveries of Prior Year Unpaid Obligations, Actual	(44,474)	(44,781)
Change in Uncollected Customer Payments From Federal Sources	54,267	12,753
Subtotal	<u>\$ 8,107,733</u>	<u>\$ 7,620,411</u>
Obligated Balance, Net - End of Period		
Unpaid Obligations	8,180,395	7,747,341
Less: Uncollected Customer Payments From Federal Sources	(72,662)	(126,930)
Total Unpaid Obligated Balance, Net - End of Period (Note 2)	<u>\$ 8,107,733</u>	<u>\$ 7,620,411</u>
Net Outlays		
Gross Outlays	5,691,662	5,656,078
Less: Offsetting Collections	(161,269)	(110,588)
Less: Distributed Offsetting Receipts	(1,535)	(4,207)
Net Outlays	<u>\$ 5,528,858</u>	<u>\$ 5,541,283</u>

The accompanying notes are an integral part of these statements.

NOTES TO THE PRINCIPAL FINANCIAL STATEMENTS
(Amounts in Thousands)

Note 1. Summary of Significant Accounting Policies

A. Reporting Entity

The National Science Foundation (NSF or "Foundation") is an independent federal agency created by the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75). Its mission is to promote and advance scientific progress in the United States. NSF initiates and supports scientific research and research fundamental to the engineering process and programs to strengthen the Nation's science and engineering potential. NSF also supports education programs at all levels in all fields of science and engineering. NSF funds research and education in science and engineering by awarding grants and contracts to educational and research institutions in all parts of the United States. NSF, by law, cannot operate research facilities except in the polar regions. By award, NSF enters into relationships to fund the research operations conducted by grantees.

NSF is led by a presidentially-appointed Director and the policy-making National Science Board (NSB). The NSB, composed of 24 members, represents a cross section of American leaders in science and engineering research and education, who are appointed by the President for six-year terms. The NSF Director is a member *ex officio* of the Board.

B. Basis of Presentation

These financial statements have been prepared to report the financial position and results of operations of NSF as required by the Chief Financial Officers Act of 1990, the Government Management Reform Act of 1994, the Reports Consolidation Act of 2000, and the Office of Management and Budget (OMB) Circular A-136, "Financial Reporting Requirements." While the statements have been prepared from the books and records of NSF in accordance with United States generally accepted accounting principles (U.S. GAAP) for federal entities and the formats prescribed by OMB, the statements are in addition to the financial reports used to monitor and control budgetary resources which are prepared from the same books and records.

C. Basis of Accounting

The accompanying financial statements have been prepared in accordance with U.S. GAAP for federal entities using the accrual method of accounting in addition to recognizing certain budgetary transactions. Under the accrual method, revenues are recognized when earned and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of federal funds.

D. Revenues and Other Financing Sources

NSF receives the majority of its funding through appropriations contained in the Science, State, Justice, Commerce, and related Agencies Appropriations Act. NSF receives annual, multi-year, and no-year appropriations that may be expended, within statutory limits. NSF also receives funding via warrant from a special earmarked receipt account that is reported as H-1B funds. Additional amounts are obtained from reimbursements for services provided to other federal agencies, transfers from other federal agencies via nonexpenditure transfers, as well as funds obtained from receipts to the donation account. Also, NSF receives interest earned on overdue receivables and excess cash advances to grantees. The interest earned on overdue receivables and excess cash advances to grantees is returned to the Treasury.

For FY 2007, Congress passed a full year Continuing Appropriations Resolution (CR). As noted in OMB Bulletin No. 07 - 03; Division B, Title I of H.J. Res. 20 provides full-year funding for accounts not funded by Public Laws 109-289 and 109-295. Accounts are generally funded at the level provided in the FY 2006 appropriations act with an additional funding of fifty percent of the cost of any FY 2007 increase in rates of pay for employees. Additionally, Public Law 110-5 provides funding for Research and Related Activities that exceeded the FY 2006 budget appropriation.

Appropriations are recognized as a financing source at the time the related "funded" program or administrative expenditures are incurred. Appropriations are also recognized when used to purchase property, plant and equipment. "Unfunded" liabilities result from liabilities not covered by budgetary resources and will be paid when future appropriations are made available for these purposes. Donations are recognized as revenues when funds are received. Revenues from reimbursable agreements are recognized when the services are provided and the related expenditures are incurred. Reimbursable agreements are mainly for grant administrative services provided by NSF on behalf of other federal agencies.

Under the general authority of the Foundation, NSF is authorized to accept into the NSF Donations Account and use both U.S. and foreign funds. 42 U.S.C. 1862 Section 3 (a)(3) (NSF has authority "to foster the interchange of scientific and engineering information among scientists and engineers in the United States and foreign countries") and also 42 U.S.C. 1870 Section 11 (f) (NSF is authorized to receive and use funds donated by others.) Donations may be received from foreign governments, private companies, academic institutions, non-profit foundations, and individuals. These funds must be donated without restriction other than that they be used in furtherance of one or more of the general purposes of the Foundation. Funds are made available for obligations as necessary to support NSF programs.

E. Fund Balance with Treasury and Cash and Other Monetary Assets

Cash receipts and disbursements are processed by the Treasury. Fund Balance with Treasury is composed primarily of appropriated funds that are available to pay current liabilities and finance authorized purchase commitments. Cash and Other Monetary Assets primarily include non-appropriated funding sources from donations and undeposited collections.

F. Accounts Receivable, Net

Accounts Receivable consists of amounts due from governmental agencies, private organizations, and individuals. NSF establishes an allowance for loss on accounts receivable from non-federal sources that are deemed uncollectible, but regards amounts due from other federal agencies as fully collectible. NSF analyzes each account independently to assess collectability and the need for an offsetting allowance or write-off. NSF writes off delinquent debt from non-federal sources that is more than two years old.

G. Advances

Advances consist of advances to grantees, contractors, and federal agencies. Advance payments are made to grant recipients so that recipients may incur expenditures related to the approved grant. Payments are only made within the amount of the recorded grant obligation and are intended to cover immediate cash needs. Advances to contractors are payments made in advance of incurring expenditures. Advances to federal agencies are only issued when agencies are operating under working capital funds and are unable to incur costs on a reimbursable basis. Advances are reduced when documentation supporting expenditures is received and recorded.

H. Grant Expenditure Accrual

The total grant expenditures for the year include an estimate of fourth quarter expenditures incurred by grantees. The majority of NSF's grantees are reimbursed for incurred costs, but due to the timing of the receipt of expenditure reports, grantees draw down funds prior to the recognition of the reimbursement for incurred costs. This timing constraint causes funding to grantees to be recorded as advances. The grant accrual calculation is based on historical trend analyses prepared by NSF. NSF uses a methodology to track the spending patterns by fiscal year and quarter for each of its fund groups. NSF determined that each appropriation and the year of the appropriation have a noted spending pattern. Based on historical information, NSF applies an average percentage rate to the current year grant related obligations for each individual appropriation within a fund group. The calculation provides NSF with the accrued expenditure.

NSF estimates the ending cash on hand balance in total for its grantees after the accrued grant expenditures have been determined. Based on an average of six years of historical cash on hand data, NSF applies the negative cash on hand rate to the estimated ending cash on hand to determine the amount to record as a liability. The difference between the total expenditure amount accrued and the liability recorded is used to reduce the advance.

I. Contract Expenditure Accrual

Contract expenditures for the year include an estimate of fourth quarter expenditures incurred by the three contractors that are funded on an advance basis. The three contractors are Raytheon Polar Services Company (RPSC), Consortium for Ocean Leadership, Inc (COL) (formerly Joint Oceanographic Institutions (JOI)), and Integrated Ocean Drilling Program Management International, Inc (IMI). Expenditures are estimated for each contractor by computing an average of the previous four quarters of actual expenditures reported. The accrual increases expenditures and decreases the advance account. If the estimated accrual amount exceeds total advances, an accrued liability is recorded for the excess.

J. General Property, Plant and Equipment (PP&E)

NSF capitalizes PP&E with costs exceeding \$25 and useful lives of two or more years; those not meeting these criteria are recorded as operating expenses. NSF currently reports capitalized PP&E at original acquisition cost; assets acquired from the General Services Administration (GSA) excess property schedules are recorded at the value assigned by the donating agency; assets transferred in from other agencies are at the cost recorded by the transferring entity for the asset net of accumulated depreciation or amortization.

The PP&E balance consists of Equipment, Aircraft and Satellites, Buildings and Structures, Leasehold Improvements, and Construction in Progress. These balances are comprised of PP&E maintained "in-house" by NSF to support operations and PP&E under the U.S. Antarctic Program (USAP). The majority of USAP property is currently the custodial responsibility of RPSC, the NSF contractor for the program. Additionally, the U.S. Navy's Space and Naval Warfare Center, the Air National Guard 109th, and Ken Borek Air have custodial responsibility for some USAP property.

Costs incurred to construct buildings and structures are accumulated and tracked as construction in progress. At 75% completion of construction, an onsite Conditional Occupancy inspection is performed to inspect for compliance to the approved plans, design, specifications, and changes. Items that pertain to the safety and health of any future occupants of the facility must be corrected before a Conditional Occupancy is granted and the facility occupied. When Conditional Occupancy is granted, the completed project is transferred from construction in progress, capitalized as real property, and depreciated over the respective useful life of the asset.

Depreciation expense is calculated using the straight line half year convention. The economic useful life classifications for capitalized assets are as follows:

Equipment

5 years	computers and peripheral equipment, fuel storage tanks, laboratory equipment, and vehicles
7 years	communications equipment, office furniture and equipment, pumps and compressors
10 or 15 years	generators, Department of Defense equipment
20 years	movable buildings (e.g. trailers)

Aircraft and Satellites

7 years	aircraft, aircraft conversions, and satellites
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Buildings and Structures

31.5 years	buildings and structures placed in service prior to 1994
39 years	buildings and structures placed in service after 1993

Leasehold Improvements

The cost of leasehold improvements performed by GSA is financed with NSF appropriated funds. The leasehold improvements are capitalized by NSF as they are transferred from Construction in Progress. Amortization is calculated using the straight line half year convention. In FY 2007, Leasehold Improvements completed during the year were amortized over 6 years, the remaining years on NSF's lease with GSA.

Office Space: The NSF Headquarter buildings are leased through the GSA under an occupancy agreement. The cancellation clause within the agreement allows NSF to terminate use with a 120 day notice. NSF is billed by GSA for the leased space as rent based upon estimated lease payments made by GSA plus an administrative fee. The cost of the Headquarter buildings are not capitalized by NSF.

Internal Use Software

NSF controls, values and reports purchased or developed software as tangible property assets, in accordance with the Statement of Federal Financial Accounting Standards (SFFAS) No. 10 – "Accounting for Internal Use Software". NSF identifies software investments as accountable property for items that, in the aggregate, cost \$500 or more to purchase, develop, enhance or modify a new or existing NSF system. Software projects that are not completed at year-end and are expected to exceed the capitalization threshold are recorded as software in development. All internal use software meeting the capitalization threshold is amortized over a five-year period using the straight line half year convention.

Assets Owned by NSF in the Custody of Other Entities: NSF awards grants, cooperative agreements, and contracts to various organizations, including colleges and universities, non-profit organizations, state and local governments, Federally Funded Research and Development Centers (FFRDC), and private entities. The funds provided may be used in certain cases to purchase or construct PP&E to be used for operations or research on projects or programs sponsored by NSF. In these instances, NSF funds the acquisition of property, but transfers control to these entities. NSF's authorizing legislation specifically prohibits it from operating such property directly. In practice, NSF's ownership interest in such PP&E is similar to a reversionary interest. To address the accounting and reporting of these assets, specific guidance was sought by NSF and provided by the Federal Accounting Standards Advisory Board (FASAB). This guidance stipulates that NSF should: (i) disclose the value of such PP&E held by others in its financial statements based on information contained in the audited financial statements of these entities (if available). Where separate audited amounts are not available for a specific entity, NSF should name the entity and note that these amounts are unavailable; and (ii) report information on costs incurred to acquire the research facilities, equipment, and platforms in the Research and Human Capital Activity costs as required by the SFFAS No. 8, "Supplementary Stewardship Reporting".

K. Advances from Others

Advances from Others consist of amounts obligated and advanced by other federal entities to NSF for grant administration and other services to be furnished under reimbursable agreements. Balances at the end of the year are adjusted by an allocated amount from the fourth quarter grantee expenditure estimate described under Note 1H, Grant Expenditure Accrual. The amount to be allocated by Trading Partner is based on a percentage of reimbursable grant expenditures to total grant expenditures.

L. Accounts Payable

Accounts Payable consist of liabilities to federal agencies, commercial vendors, contractors, and disbursements in transit. Accounts payable to federal agencies, commercial vendors and contractors are expenses for goods and services received but not yet paid by NSF at the end of the fiscal year. At year-end, NSF accrues for the amount of estimated unpaid expenditures to commercial vendors for which invoices have not been received, but goods and services have been delivered and rendered. Accounts payable also consist of disbursements in transit recorded by NSF but not paid by Treasury.

M. Accrued Liabilities

Accrued liabilities consist of grant accruals, contract accruals, accrued payroll, and benefits. Grant liabilities and contract accruals are estimated expenditures greater than the amount advanced. At year-end, NSF accrues for the amount of estimated grantee and contractor expenses not covered by advances. The grant accrual process is explained further in Note 1H, Grant Expenditure Accrual. The contract expenditure accrual process is explained further in Note 1I, Contract Expenditure Accrual.

NSF's payroll services are provided by the Department of the Interior. Accrued payroll and benefits relate to services rendered by NSF employees but not yet paid. At year-end, NSF accrues the amount of wages and benefits earned, but not yet paid. Annual leave is accrued as it is earned, and the accrual is reduced as leave is taken. Each year, the balance in the accrued annual leave account is adjusted to reflect changes. To the extent current and prior-year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future Salaries and Expenses appropriations. Sick leave and other types of nonvested leave are expensed as taken.

N. Employee Benefits

A liability is recorded for estimated and actual future payments to be made for workers' compensation pursuant to the Federal Employees' Compensation Act (FECA). The liability consists of the net present value of estimated future payments calculated by the U.S. Department of Labor (DOL) and the actual unreimbursed cost paid by DOL for compensation paid to recipients under FECA. The actual costs incurred are reflected as a liability because NSF will reimburse DOL two years after the actual payment of expenses. Future NSF Salary and Expense Appropriations will be used for DOL's estimated reimbursement.

O. Net Position

Net position is the residual difference between assets and liabilities and is composed of unexpended appropriations and cumulative results of operations. Unexpended appropriations represent the amount of undelivered orders and unobligated balances of budget authority. Unobligated balances are the amount of appropriations or other authority remaining after deducting the cumulative obligations from the amount available for obligation. The cumulative results of operations is the net result of NSF's operations since inception.

P. Retirement Plan

In FY 2007, approximately 22 percent of NSF employees participated in the Civil Service Retirement System (CSRS), to which NSF matches contributions equal to 7 percent of pay. The majority of NSF employees are covered by the Federal Employees Retirement System (FERS) and Social Security. A primary feature of FERS is that it offers a thrift savings plan to which NSF automatically contributes 1 percent of pay and matches employee contributions up to an additional 4 percent of pay. NSF also contributes the employer's matching share for Social Security for FERS participants.

Although NSF funds a portion of the benefits under FERS and CSRS relating to its employees and withholds the necessary payroll deductions, the foundation has no liability for future payments to employees under these plans, nor does NSF report CSRS, FERS, Social Security assets, or accumulated plan benefits, on its financial statements. Reporting such amounts is the responsibility of the Office of Personnel Management (OPM) and The Federal Retirement Thrift Investment Board.

SFFAS No. 5, "Accounting for Liabilities of the Federal Government", requires employing agencies to recognize the cost of pensions and other retirement benefits during their employees' active years of service. OPM actuaries determine pension cost factors by calculating the value of pension benefits expected to be paid in the future, and provide these factors to the agency for current period expense reporting. Information is also provided by OPM regarding the full cost of health and life insurance benefits on the OPM Benefit Administration Website <http://www.opm.gov/retire/asd/htm/2007/07-305.asp>

Q. Contingencies and Possible Future Costs

Contingencies - Claims and Lawsuits: NSF is a party to various legal actions and claims brought against it. In the opinion of NSF management and legal counsel, the ultimate resolution of the actions and claims will not materially affect the financial position or operations of the Foundation. NSF recognizes the contingency in the financial statements when claims are expected to result in a material loss, whether from NSF's appropriations or the "Judgment Fund" administered by the Department of Justice under Section 1304 of Title 31 of the United States Code, and, the payment amounts can be reasonably estimated.

Claims and lawsuits have also been made and filed against awardees of the Foundation by third parties. NSF is not a party to these actions and NSF believes there is no possibility that NSF will be legally required to satisfy such claims. Judgments or settlements of the claims against awardees that impose financial obligation on them may be claimed as costs under the applicable contract, grant, or cooperative agreement and thus may affect the allocation of program funds in future fiscal years. In the event that the claim becomes probable and amounts can be reasonably estimated, the claim will be recognized.

Contingencies – Unasserted Claims: For claims and lawsuits that have not been made and filed against the Foundation, NSF management and legal counsel determine, in their opinion, whether resolution of the actions and claims it is aware of will materially affect the Foundation's financial position or operations. NSF recognizes a contingency in the financial statements when unasserted claims are probable of assertion, and if asserted would be probable of an unfavorable outcome, and expected to result in a measurable loss, whether from NSF's appropriations or the "Judgment Fund." NSF discloses unasserted claims if materiality or measurability of a potential loss cannot be determined or the loss is more likely than not to occur rather than probable.

Termination Claims: NSF engages organizations in cooperative agreements and contracts to manage, operate and maintain research facilities for the benefit of the scientific community. As part of these agreements and contracts, NSF funds on a pay-as-you-go basis certain employee benefit costs, (accrued vacation and other employee related liabilities, severance pay and medical insurance), long term leases and vessel usage.

Environmental Liabilities: NSF manages the U.S. Antarctic Program. The Antarctic Conservation Act and its implementing regulations identify the requirements for environmental clean-up in Antarctica. NSF continually monitors the U.S. Antarctic Program in regards to environmental issues. NSF establishes its environmental liability estimates in accordance with the requirements of the SFFAS No. 5, "Accounting for Liabilities of the Federal Government," and as amended by SFFAS No. 12, "Recognition of Contingent Liabilities Arising from Litigation," and the Federal Financial Accounting and Auditing Technical Release No. 2, "Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government." Further information regarding environmental liabilities is included in Note 6, Estimated Clean Up Cost Liability.

R. Use of Estimates

Management has made certain estimates and assumptions when reporting assets, liabilities, revenue, and expenses, and also in the note disclosures. Estimates underlying the accompanying financial statements include accounting for grants, contracts, accounts payable, payroll, and property, plant and equipment. Actual results may differ from these estimates, and the difference will be adjusted for and included in the financial statements of the following fiscal year.

S. Presentation of the Statement of Net Cost

The Statement of Net Cost is updated to reflect the Foundation's new strategic framework set forth in NSF's new strategic plan, "Investing in America's Future: Strategic Plan FY 2006-2011." The FY 2006 Statement of Net Cost, previously issued, is reformatted to reflect the new presentation.

T. Presentation of the Statement of Financing

Per OMB Circular A-136, "Financial Reporting Requirements", the Statement of Financing is no longer considered a basic statement and is presented as a note to the financial statements and referred to as "Reconciliation of Net Cost of Operations to Budget". See note 15 for further information on the change in presentation.

Note 2. Fund Balance With Treasury

Fund Balance with Treasury consisted of the following components as of September 30, 2007 and 2006:

(Amounts in Thousands)	2007			
	Appropriated Funds	Donated Funds	Earmarked Funds	Total
Obligated	\$ 7,809,538	\$ 24,271	\$ 273,924	\$ 8,107,733
Unobligated Available	50,894	31,369	59,446	141,709
Unobligated Unavailable	73,034	10	3,924	76,968
Less: Budgetary Non-FBWT	-	(16,228)	-	(16,228)
Total FBWT	\$ 7,933,466	\$ 39,422	\$ 337,294	\$ 8,310,182

(Amounts in Thousands)	2006			
	Appropriated Funds	Donated Funds	Earmarked Funds	Total
Obligated	\$ 7,431,272	\$ 5,852	\$ 183,286	\$ 7,620,410
Unobligated Available	7,662	17,709	95,501	120,872
Unobligated Unavailable	79,595	391	2,686	82,672
Total FBWT	\$ 7,518,529	\$ 23,952	\$ 281,473	\$ 7,823,954

The Donations Account includes amounts donated to NSF from all sources. Funds in the Donations Account may be used in furtherance of one or more of the general purposes of the Foundation. The donated funds are held as Fund Balance with Treasury (FBWT) or as non-FBWT with budgetary resources which represent cash held outside of Treasury at commercial banks in interest bearing accounts. These funds are collateralized up to \$22,000 by the bank through the Federal Reserve Bank of St. Louis in accordance with Treasury Financial Manual Volume 1, Chapter 6-9000. Unobligated Unavailable balances include recoveries of prior year obligations, other unobligated expired funds that are unavailable for new obligations.

In FY 1999, in accordance with P.L. 105-277, a special fund named H-1B Nonimmigrant Petitioner Fees Account was established in the general fund of the U.S. Treasury. These funds are considered Earmarked Funds and are not included in Appropriated Funds. The funds represent fees collected for each petition for nonimmigrant status. Under the law, NSF was prescribed a percentage of these fees for specific programs.

Note 3. Advances

Intragovernmental

As of September 30, 2007 and 2006, Intragovernmental Advances to Others were \$35,255 and \$35,189 respectively.

Public

(Amounts in Thousands)	2007	2006
Advances to Grantees	\$ 68,578	\$ 76,413
Advances to Contractors	10,748	98
Total Advances to the Public	\$ 79,326	\$ 76,511

Note 4. General Property, Plant and Equipment, Net

The components of General Property Plant and Equipment as of September 30, 2007 and 2006 were:

(Amounts in Thousands)	2007		
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 108,239	\$ (90,329)	\$ 17,910
Aircraft and Satellites	138,487	(128,886)	9,601
Buildings and Structures	240,165	(67,208)	172,957
Leasehold Improvements	4,688	(1,591)	3,097
Construction in Progress	52,043	-	52,043
Internal Use Software	7,879	(6,344)	1,535
Software in Development	3,064	-	3,064
Total PP&E	\$ 554,565	\$ (294,358)	\$ 260,207

(Amounts in Thousands)	2006		
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 129,604	\$ (110,148)	\$ 19,456
Aircraft and Satellites	138,487	(122,485)	16,002
Buildings and Structures	129,025	(51,181)	77,844
Leasehold Improvements	3,686	(1,112)	2,574
Construction in Progress	141,880	-	141,880
Internal Use Software	7,879	(5,203)	2,676
Software in Development	915	-	915
Total PP&E	\$ 551,476	\$ (290,129)	\$ 261,347

Note 5. Property, Plant and Equipment in the Custody of Other Entities

As explained in Note 1-J, Assets Owned by NSF in the Custody of Other Entities, NSF received a ruling from FASAB on accounting for PP&E owned by NSF but in the custody of and used by others. The FASAB guidance requires PP&E in the custody of others be excluded from NSF PP&E as defined in the SFFAS No. 6 "Accounting for Property, Plant and Equipment". NSF is however required to disclose the dollar amount of NSF PP&E held by others in the footnotes based on information contained in the most recently issued audited financial statements of the organization holding the assets.

In some cases, Federally Funded Research and Development Centers (FFRDCs), colleges and universities, and commercial entities operate on a fiscal year-end basis other than September 30. If NSF PP&E is not separately stated on the entities' audited financial statements, entities are not audited, or financial statements were not submitted, the related amounts and Fiscal Year end dates are annotated as Not Available (N/A) in the table. The available net book values and related year ends for all entities with NSF owned property are presented below.

(Amounts in Thousands)

	Amount	Fiscal Year Ending
<i>Federally Funded Research and Development Centers</i>		
National Astronomy & Ionosphere Center (Cornell) - NAIC	\$ N/A	6/30
National Center for Atmospheric Research - UCAR	181,352	9/30
National Optical Astronomy Observatories - AURA	446,858	9/30
National Radio Astronomy Observatory - AUI	N/A	9/30
<i>Colleges and Universities</i>		
California Academy of Sciences	N/A	6/30
California Institute of Technology	N/A	9/30
Columbia University	N/A	6/30
Dartmouth College	N/A	N/A
Duke University	N/A	6/30
ECPI College of Technology	N/A	6/30
Hofstra University	N/A	8/31
Kansas State University	N/A	6/30
Louisiana Universities Marine Consortium	N/A	N/A
Ohio State University Research Foundation	N/A	N/A
Old Dominion University Research Foundation	N/A	6/30
Oregon State University	N/A	6/30
San Diego State University Foundation	N/A	6/30
San Jose State University Foundation	N/A	6/30
Stanford University	N/A	8/31
University of Alaska Fairbanks Campus	N/A	6/30
University of California-Riverside	N/A	6/30
University of California-San Diego Scripps Inst of Oceanography	N/A	6/30
University of California-Santa Barbara	N/A	6/30
University of Delaware	N/A	6/30
University of Georgia Research Foundation Inc	N/A	6/30
University of Hawaii	N/A	6/30
University of Illinois at Urbana-Champaign	N/A	6/30
University of Miami Rosenstiel School of Marine & Atmospheric Science	N/A	N/A
University of Minnesota Duluth	N/A	6/30
University of Rhode Island	N/A	6/30
University of Richmond	N/A	6/30
University of South Florida	N/A	6/30
University of Washington	N/A	6/30
University of Wisconsin	N/A	6/30
University of Wisconsin-Madison	N/A	N/A

Commercial Entities

Articular Engineering, LLC	N/A	N/A
Bermuda Biological Station For Research Inc	N/A	12/31
Bossa Nova Technologies LLC	N/A	N/A
Catacel Corp	N/A	N/A
CeraMem Corporation	N/A	N/A
Ekips Technologies, Inc	N/A	N/A
EM Photonics Inc	N/A	N/A
Environmental Metrology Corporation	N/A	N/A
Fourth Wave Imaging Corporation	N/A	N/A
Global Contour LTD	N/A	N/A
Harbor Branch Oceanographic Institution, Inc.	N/A	12/31
Imago Scientific Instruments Corp	N/A	N/A
Incorporated Research Institutions for Seismology	N/A	6/30
Information Systems Laboratories Inc	N/A	N/A
Institute of Global Environment and Society	N/A	N/A
Joint Oceanographic Institutions Inc	N/A	9/30
Kapteyn-Murnane Labs, Inc	N/A	N/A
LessonLab, Inc.	N/A	N/A
Lucigen Corporation	N/A	N/A
Monterey Bay Aquarium Research Institute	N/A	12/31
New York Botanical Garden	N/A	N/A
Physical Optics Corporation	N/A	N/A
QED Technologies, Inc.	N/A	N/A
Raytheon Technical Services Company, LLC	N/A	N/A
Sinmat, Inc	N/A	N/A
Skidaway Institute of Oceanography	N/A	6/30
Smithsonian Institution Astrophysical Observatory	N/A	N/A
Tetramer Technologies, LLC	N/A	N/A
The Venture Group (Venture Innovations, Inc.)	N/A	N/A
UNAVCO, Inc.	N/A	12/31
Veco USA, Inc	N/A	N/A
Verionix	N/A	N/A
Vista Engineering Inc	255	12/31
Woods Hole Oceanographic Institution	N/A	12/31

Note 6. Estimated Clean Up Cost Liability

Antarctic

NSF is not legally liable for environmental clean-up costs in the Antarctic. Article 16 to the Protocol on Environmental Protection to the Antarctic Treaty (1991) requires that the Treaty Parties "undertake to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area. . ." Negotiations relating to the terms of the Liability Annex were concluded and the terms of the Annex finalized in 2005. The liability contemplated by the Annex is narrow: it is only prospective in its focus and generally imposes liability only when an operator fails to take response action to an environmental emergency. Regardless, as the Annex cannot enter into force until all 29 Antarctic Treaty Consultative Parties have ratified its provision (which typically requires the enactment of national laws by each Consultative Party), no legal liability for environmental clean up costs will arise for NSF for many years to come.

There are occasions when the NSF Office of Polar Programs (OPP) chooses to accept responsibility and commit funds toward clean-up efforts of various sites as resources permit. Those decisions are in no way driven by concerns of probable legal liability for failure to engage in such efforts, but rather, a commitment to environmental stewardship of Antarctic natural resources. For those projects/incidents that OPP decides it may fund and that cannot be accomplished within allocated operations and maintenance funding, the support contractor is directed to develop a preliminary estimate. Final estimates, and approval to proceed, will depend on an assessment of risk to the environment, availability of personnel, and accessibility to a site in any given year.

Environmental clean-up projects started and completed during the year are reflected in NSF's financial statements as expenses for the current fiscal year. However, for approved projects that are anticipated to be performed after the fiscal year or will take more than one fiscal year to complete, an estimated cost is accrued in NSF's financial statements. At September 30, 2007 and 2006, no funds have been accrued for multi-year environmental clean-up projects in the Antarctic.

Other

NSF is continuing its actions to assess the condition of the Columbia Scientific Balloon Facility (CSBF) site before completing a no-cost transfer through the GSA to the National Aeronautics and Space Administration (NASA). NASA engineers reported 10 wells on the CSBF site and are aware of one contaminated well from battery disposal. NSF estimates, in consultation with the general counsel office, that the clean-up costs will range between \$50 and \$200, the lower of which is reflected on the balance sheet as Other Intragovernmental Liabilities. This estimate is based upon the proposed NSF share of Phase II Environmental Due Diligence Audit (EDDA) of the CSBF assessment resulting from findings in the EDDA Phase I. Phase II of the joint agency environmental investigation has commenced and a final report is due February 2008 at which time NSF will be able to evaluate whether future outflow is necessary.

Note 7. Leases

NSF leases its Headquarter buildings under an operating lease with the GSA. The following are schedules of future minimum rental payments required under leases that have initial or remaining terms in excess of a year.

(Amounts in Thousands)

Fiscal Year	Operating Lease Amount
2008	\$ 20,079
2009	20,604
2010	20,302
2011	20,591
2012	20,911
2013 and thereafter	24,463
Total Minimum Lease Payments	\$ 126,950

Note 8. Commitments and Contingencies

Cost Incurred Audits: A large NSF contractor provides maintenance and operations services to the United States Antarctic Program. Cost incurred audits have been completed on the contractor for fiscal years 2000 to 2004, and \$55,500 is being questioned. A corresponding receivable is not reflected in the balance sheet due to the uncertainty of NSF recovering any of these questioned costs.

Claims: Contractor claims for additional compensation under a contract awarded by the United States Air Force (USAF) for the reconfiguration of three NSF owned LC130 aircrafts, were paid by the Department of Justice Judgment Fund for \$3,000 and are reflected on the Other Intragovernmental Liabilities line of the balance sheet. In a good faith effort to make the Treasury Judgment Fund whole, NSF submitted a request for funds in its FY 2007 budget submission in order to reimburse the Treasury Judgment Fund. However, the year-long continuing resolution did not provide those funds. NSF continues to maintain that USAF should be the responsible party, and is seeking a decision from the Department of Justice Office of Legal Counsel to that effect.

FFRDC Termination Claims: NSF provides financial assistance for the operation and maintenance of four Federally Funded Research and Development Centers (FFRDC) by cooperative agreement. These agreements include a clause that commits NSF to seek appropriations for termination expenses, if necessary, in the event an agreement is not renewed or is terminated.

NSF is obligated to pay termination expenses in excess of the limitation of funds set forth in the agreements, including any Post Retirement Benefit liabilities, only if funds are appropriated for this specific purpose. Nothing in these agreements can be construed as implying that Congress will appropriate funds to meet the terms of any claims. Although one FFRDC operator has identified these payments as a current obligation of NSF, the termination clause of the agreement clearly states that any obligation for these expenses exists only upon termination of the agreement and is limited to the lesser of available appropriations or \$25,000.

The co-operative agreement with one of these FFRDCs ends in September 2008, and the re-compete process has been initiated. At September 30, 2007 a decision has not been made on whether the current management team will be retained.

NSF considers non-renewal or termination of these cooperative agreements only remotely possible. Termination costs that may be payable to an FFRDC operator cannot be estimated until such time as the cooperative agreement is terminated.

Note 9. Earmarked Funds

In FY 1999, Title IV of the American Competitiveness and Workforce Improvement Act of 1998 (P.L. 105-277) established an H-1B Non immigrant petitioner account in the General Fund of the U.S. Treasury. Funding is established from fees collected for alien, non immigrant status petitions. This law requires that a prescribed percentage of the funds in the account be made available to NSF for the following activities:

- Computer Science, Engineering, and Mathematics Scholarship (CSEMS)
- Grants for Mathematics, Engineering, or Science Enrichment Courses
- Systemic Reform Activities

The H-1B Non immigrant Petitioner fees are available to the Director of NSF until expended. The funds may be used for scholarships to low income students, or to carry out a direct or matching grant program to support private and/or public partnerships in K-12 education. The H-1B Fund is set up as a permanent, indefinite appropriation by NSF. These funds are included in the President's budget. The earmarked funds are accounted for in its own Treasury Account Fund Symbol (TAFS) and the budgetary resources for the earmarked fund are recorded as Appropriated Earmarked Receipts Transferred In, and reported according to the guidance for earmarked funds in SFFAS No. 27, "Identifying and Reporting Earmarked Funds".

(Amounts in Thousands)	2007 Earmarked Funds	2006 Earmarked Funds
Balance Sheet as of September 30, 2007 and 2006		
Fund Balance with Treasury	\$ 337,295	\$ 281,473
Advances	595	588
Total Assets	<u>337,890</u>	<u>282,061</u>
Other Liabilities	3,226	2,779
Total Liabilities	<u>3,226</u>	<u>2,779</u>
Cumulative Results of Operations	334,664	279,282
Total Liabilities and Net Position	<u>\$ 337,890</u>	<u>\$ 282,061</u>

Statement of Net Cost for the Years Ended September 30, 2007 and 2006

Program Costs	\$ 51,977	\$ 43,997
Less: Earned Revenues	-	-
Net Cost of Operations	<u>\$ 51,977</u>	<u>\$ 43,997</u>

Statement of Changes in Net Position For the Years Ended September 30, 2007 and 2006

Net Position Beginning of Period	\$ 279,282	\$ 217,955
Appropriated Earmarked Receipts Transferred In	107,359	105,324
Net Cost of Operation	(51,977)	(43,997)
Change in Net Position	<u>55,382</u>	<u>61,327</u>
Net Position End of Period	<u>\$ 334,664</u>	<u>\$ 279,282</u>

Note 10. Statement of Net Cost

Major Program Descriptions

The Statement of Net Cost presents the NSF-wide expenses incurred by the Foundation. The presentation of the NSF's net cost by strategic goal is included in this note. For FY 2007, the Statement of Net Cost is updated to reflect the Foundation's new strategic framework set forth in NSF's new strategic plan, "Investing in America's Future: Strategic Plan FY 2006-2011." The FY 2006 Statement of Net Cost is reformatted to reflect the new presentation.

The strategic goals outlined in the new plan are: Discovery, Learning, and Research Infrastructure. NSF's fourth strategic goal, Stewardship, focuses on NSF's administrative and management activities. In pursuit of its mission, NSF makes investments in Discovery, Learning, and Research Infrastructure. These goals reflect outcomes at the heart of the research enterprise: fostering research that will advance the frontiers of knowledge (Discovery); cultivating a world-class, broadly inclusive science and engineering workforce and expanding the scientific literacy of all citizens (Learning); and building the nation's research capability through critical investments in advanced instrumentation, facilities, cyberinfrastructure and experimental tools (Research Infrastructure).

Net costs are presented for the three primary appropriations that fund NSF's programmatic activities (Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction), and for donations and earmarked funds that are classified in the Statement of Net Cost and its related footnote as 'Costs Not Assigned To Other Programs'. Stewardship costs are prorated among them. Stewardship costs include expenditures incurred from the Salary & Expenses (S&E), National Science Board (NSB) and Office of Inspector General (OIG) appropriations. The costs for transactions in Indian Rupees are also included as Stewardship costs, and were liquidated in Fiscal Year 2007 with the remaining balance swept per order of the Executive Office of the President. These appropriations support salaries and benefits of persons employed at NSF; general operating expenses, including support of NSF's information systems technology; staff training, audit and OIG activities; and Office of Personnel Management (OPM) and Department of Labor (DOL) benefits costs paid on behalf of NSF.

At September 30, 2007 and 2006, approximately 95 percent of NSF's expenses were directly related to the Discovery, Learning, and Research Infrastructure strategic outcome goals. Net costs for each strategic goal is determined by allocating total costs by the percentage for which obligations for each strategic outcome goal accounted for total obligations in the current year. All NSF earmarked funds are allocated to the Learning strategic goal. The remaining portion of NSF's expenses relate to the Stewardship strategic goal.

At September 30, 2007 and 2006, costs related to the Stewardship activities totaled \$275,993 and \$269,574, respectively. All Stewardship costs are prorated to the other three strategic goals based on the percentage that each Strategic Goal's expenditures accounts for the total expenditures of appropriated, trust and earmarked funds.

In accordance with OMB Circular A-136, costs incurred for services provided by other federal entities are reported in the full costs of NSF programs and are identified as "federal". All earned revenues are offsetting collections provided through reimbursable agreements with other federal entities and are retained by NSF. Earned revenues are recognized when the related program or administrative expenses are incurred and are deducted from the full cost of the programs to arrive at the net cost of operating NSF's programs. NSF applies a cost recovery fee on other federal entities consistent with applicable legislation and Government Accountability Office decisions. NSF recovers the costs incurred in the management, administration, and oversight of activities authorized and/or funded by interagency agreements where NSF is the performing agency.

Intragovernmental and Public Costs and Earned Revenue by Strategic Goal

(Amounts in Thousands)	Federal	2007 Public	Total
Research and Related Activities			
Discovery	\$ 115,522	2,478,343	2,593,865
Learning	28,328	607,741	636,069
Research Infrastructure	56,918	1,221,081	1,277,999
Total Research and Related Activities	200,768	4,307,165	4,507,933
Less: Earned Revenue	(68,500)	-	(68,500)
Net Research and Related Activities	132,268	4,307,165	4,439,433
Education and Human Resources			
Discovery	\$ 2,828	517,611	520,439
Learning	694	126,929	127,623
Research Infrastructure	1,393	255,027	256,420
Total Education and Human Resources	4,915	899,567	904,482
Less: Earned Revenue	(8,270)	-	(8,270)
Net Education and Human Resources	(3,355)	899,567	896,212
Major Research Equipment and Facilities Construction			
Discovery	\$ 8,775	119,496	128,271
Learning	2,152	29,303	31,455
Research Infrastructure	4,324	58,876	63,200
Total Major Research Equipment and Facilities Construction	15,251	207,675	222,926
Less: Earned Revenue	-	-	-
Net Major Research Equipment and Facilities Construction	15,251	207,675	222,926
Costs Not Assigned To Other Programs			
Learning	\$ -	54,120	54,120
Research Infrastructure	516	22,922	23,438
Total Costs Not Assigned To Other Programs	516	77,042	77,558
Less: Earned Revenue	-	-	-
Net Costs Not Assigned To Other Programs	516	77,042	77,558
Net Cost of Operations	\$ 144,680	5,491,449	5,636,129

Notes to the Principal Financial Statements
September 30, 2007 and 2006

(Amounts in Thousands)	Federal	2006 Public	Total
Research and Related Activities			
Discovery	\$ 103,300	2,290,502	2,393,802
Learning	37,888	840,096	877,984
Research Infrastructure	53,608	1,188,659	1,242,267
Total Research and Related Activities	194,796	4,319,257	4,514,053
Less: Earned Revenue	(109,254)	-	(109,254)
Net Research and Related Activities	85,542	4,319,257	4,404,799
Education and Human Resources			
Discovery	\$ 1,357	489,375	490,732
Learning	498	179,490	179,988
Research Infrastructure	703	253,962	254,665
Total Education and Human Resources	2,558	922,827	925,385
Less: Earned Revenue	(16,566)	-	(16,566)
Net Education and Human Resources	(14,008)	922,827	908,819
Major Research Equipment and Facilities Construction			
Discovery	\$ 5,540	96,064	101,604
Learning	2,032	35,233	37,265
Research Infrastructure	2,875	49,853	52,728
Total Major Research Equipment and Facilities Construction	10,447	181,150	191,597
Less: Earned Revenue	-	-	-
Net Major Research Equipment and Facilities Construction	10,447	181,150	191,597
Costs Not Assigned To Other Programs			
Learning	\$ 1	45,789	45,790
Research Infrastructure	9,268	35,488	44,756
Total Costs Not Assigned To Other Programs	9,269	81,277	90,546
Less: Earned Revenue	-	-	-
Net Costs Not Assigned To Other Programs	9,269	81,277	90,546
Net Cost of Operations	\$ 91,250	5,504,511	5,595,761

Note 11. Permanent Indefinite Appropriations

NSF maintains permanent indefinite appropriations for Research and Related Activities (R&RA) and Major Research Equipment and Facilities Construction (MREFC).

The R&RA appropriation is used for Polar research and operations support, and for reimbursement to other Federal agencies for operational and science support and logistical and other related activities for the United States Antarctic program. In Fiscal Years 2007 and 2006, the permanent indefinite appropriations for R&RA were \$439,550 and \$395,560, respectively, and are reported as a current year transfer from the annual R&RA appropriation. In FY 2007 there was no rescission, but in FY 2006 an across the board rescission of \$5,052 was passed under Public Law numbers 109-108 and 109-148.

The MREFC appropriation supports the construction and procurement of unique national research platforms and major research equipment. In Fiscal Years 2007 and 2006, the permanent indefinite appropriations for MREFC were \$190,881 and \$193,350, respectively. In FY 2007 there was no rescission, but in FY 2006 an across the board rescission of \$2,470 was passed under Public Law numbers 109-108 and 109-148.

Note 12. Apportionment Categories of Obligations Incurred: Direct vs. Reimbursable Obligations

OMB Circular No. A-11, "Preparation, Submission, and Execution of the Budget," requires direct and reimbursable obligations be reported as Category A, Category B, or Exempt from Apportionment. In FY 2007 and FY 2006, NSF's SF-132, "Apportionment and Reapportionment Schedule," apportions all obligations incurred under Category B which is by activity, project, or object. In FY 2007 and FY 2006, direct obligations amounted to \$6,063,147 and \$5,777,489, respectively, and reimbursable obligations amounted to \$106,044 and \$100,517, respectively.

Note 13. Explanation of Differences between the Statement of Budgetary Resources and the Budget of the United States Government

SFFAS No. 7, "Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting", calls for explanations of material differences between amounts reported in the SBR and the actual balances published in the Budget of the United States Government (President's Budget). However, the President's Budget that will include FY 2007 actual budgetary execution information has not yet been published. The President's Budget is scheduled for publication in February 2008 and can be found on the OMB web site: <http://www.whitehouse.gov/omb>.

Balances reported in the FY 2006 SBR and the related President's Budget are shown in a table below for Budgetary Resources, Obligations Incurred, Unobligated Balance - Unavailable and any related differences. The differences reported are due to differing reporting requirements for expired and unexpired appropriations between the Treasury guidance used to prepare the SBR and the OMB guidance used to prepare the President's Budget. The SBR includes both unexpired and expired appropriations, while the President's Budget discloses only unexpired budgetary resources that are available for new obligations.

(Amounts in Thousands)	FY 2006		
	Budgetary Resources	Obligations Incurred	Unobligated Balance Not Available
Combined Statement of Budgetary Resources	\$ 6,081,550	\$ 5,878,006	\$ 82,672
Budget of the U.S. Government	\$ 5,999,000	\$ 5,874,000	\$ 4,000
Difference	\$ 82,550	\$ 4,006	\$ 78,672

Note 14. Undelivered Orders at the end of the Period

In accordance with SFFAS No. 7, "Accounting for Revenue and Other Financing Sources", the amount of budgetary resources obligated for undelivered orders for the periods ended September 30, 2007 and 2006, amounted to \$7,870,354 and \$7,450,324, respectively.

**Note 15. Reconciliation of Net Cost of Operations to Budget
(formerly the Statement of Financing)**

In FY 2007, OMB Circular No. A-136, "Financial Reporting Requirements", was updated to pronounce that the Statement of Financing will no longer be considered a Basic Statement. In compliance with SFFAS 7 "Accounting for Revenue and Other Financing Sources", the Statement of Financing is displayed in the Notes section and is referred to as "Reconciliation of Net Cost of Operations to Budget".

Amounts in Thousands	2007	2006
Resources Used To Finance Activities		
Budgetary Resources Obligated		
Obligations Incurred	\$ 6,169,191	\$ 5,878,006
Less: Spending Authority from Offsetting Collections and Recoveries	(151,475)	(142,616)
Obligations Net of Offsetting Collections and Recoveries	6,017,716	5,735,390
Less: Offsetting Receipts	(1,535)	(4,207)
Net Obligations	6,016,181	5,731,183
Other Resources		
Imputed Financing	9,336	9,151
Other Resources	(1,375)	-
Net Other Resources Used to Finance Activities	7,961	9,151
Total Resources Used to Finance Activities	6,024,142	5,740,334
Resources Used to Finance Items Not Part of the Net Cost of Operations		
Change in Budgetary Resources Obligated for Goods, Services and Benefits Ordered but Not Yet Provided	(390,902)	(148,852)
Resources that Fund Expenses Recognized in Prior Periods	(280)	(143)
Budgetary Offsetting Collections and Receipts that Do Not Affect Net Cost of Operations	1,535	4,207
Resources that Finance the Acquisition of Assets	(21,539)	(22,431)
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	(411,186)	(167,219)
Total Resources Used to Finance Net Cost of Operations	5,612,956	5,573,115
Components of the Net Cost of Operations that will not Require or Generate Resources in the Current Period		
Components Requiring or Generating Resources in Future Periods		
Other	383	3,993
Total Components of Net Cost of Operations that will Require or Generate Resources in Future Periods	383	3,993
Components Not Requiring or Generating Resources		
Depreciation and Amortization	21,478	18,666
Other	1,312	(13)
Total Components of Net Cost of Operations that will not Require or Generate Resources	22,790	18,653
Total Components of Net Cost of Operations that Will Not Require or Generate Resources in the Current Period	23,173	22,646
Net Cost of Operations	\$ 5,636,129	\$ 5,595,761

Required Supplementary Stewardship Information
Stewardship Investments

**Stewardship Investments
Research and Human Capital**

(Dollar Amounts in Thousands)

Research and Human Capital Activities

	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>
Basic Research	4,195,444	3,682,266	3,564,093	3,494,302	3,519,159
Applied Research	432,820	339,757	291,169	209,225	218,152
Education and Training	808,642	1,378,472	1,386,952	1,224,058	867,489
Non-Investing Activities	275,993	321,085	292,426	268,298	196,363
Total Research & Human Capital Activities	<u>\$ 5,712,899</u>	<u>\$ 5,721,580</u>	<u>\$ 5,534,640</u>	<u>\$ 5,195,883</u>	<u>\$ 4,801,163</u>

Inputs, Outputs and/or Outcomes

Research and Human Capital Activities

Investments In:

Universities	4,016,101	3,994,682	3,970,851	3,705,751	3,310,365
Industry	208,696	199,523	223,563	196,260	178,000
Federal Agencies	203,759	221,002	143,316	107,212	144,792
Small Business	220,602	218,334	193,199	200,995	186,400
Federally Funded R&D Centers	335,731	299,802	278,542	269,968	285,329
Non-Profit Organizations	421,775	428,648	418,209	374,838	360,654
Other	306,235	359,589	306,960	340,859	335,623
	<u>\$ 5,712,899</u>	<u>\$ 5,721,580</u>	<u>\$ 5,534,640</u>	<u>\$ 5,195,883</u>	<u>\$ 4,801,163</u>

Support To:

Scientists	496,431	473,457	454,053	477,970	427,304
Postdoctoral Programs	163,896	158,528	162,132	175,680	163,239
Graduate Students	585,308	544,513	538,233	546,084	475,315
	<u>\$ 1,245,635</u>	<u>\$ 1,176,498</u>	<u>\$ 1,154,418</u>	<u>\$ 1,199,734</u>	<u>\$ 1,065,858</u>

Outputs & Outcomes:

Number of:

Awards Actions	23,000	22,000	22,000	23,000	23,000
Senior Researchers	41,000	32,000	32,000	31,000	30,000
Other Professionals	13,000	11,000	12,000	15,000	12,000
Postdoctoral Associates	6,000	5,000	6,000	6,000	6,000
Graduate Students	35,000	26,000	27,000	29,000	27,000
Undergraduate Students	23,000	27,000	33,000	35,000	32,000
K-12 Students	11,000	8,000	11,000	14,000	14,000
K-12 Teachers	61,000	59,000	74,000	86,000	85,000

NSF's mission is to support basic scientific research and research fundamental to the engineering process as well as science and engineering education programs. NSF's Stewardship Investments fall principally into the categories of Research and Human Capital. For expenses incurred under the Research category, the majority of NSF funding is devoted to basic research, with a relatively small share going to applied research. This funding supports both the conduct of research and the necessary supporting infrastructure, including state-of-the-art instrumentation, equipment, computing resources, and multi-user facilities such as digital libraries, observatories, and research vessels and aircraft. Basic and applied research expenses are determined by prorating the program costs of NSF's strategic goals on Research Infrastructure and Discovery reported on the Statement of Net Cost. The proration uses the basic and applied research percentages of total estimated research and development obligations reported in the current year Budget Request to OMB. The actual numbers are not available until later in the following fiscal year. Education and Training costs equate to NSF's third strategic goal, Learning, and the costs related to Non-Investing activities reflect the fourth strategic goal, Stewardship.

The data provided for Scientists, Postdoctoral Associates, and Graduate Students are obtained from NSF's proposal system and is information reported by each Principal Investigator. The number of award actions are actual values from NSF's Enterprise Information System (EIS). The remaining outputs and outcomes are estimates obtained annually from the NSF Directorates. They are reported in the annual Budget Request to OMB.

NSF's Human Capital investments focus principally on education and training, toward a goal of creating a diverse, internationally competitive and globally engaged workforce of scientists, engineers and well-prepared citizens. NSF supports activities to improve formal and informal science, mathematics, engineering and technology education at all levels, as well as public science literacy projects that engage people of all ages in life-long learning. The incremental decrease in the net costs of Research and Human Capital Activities reflects a decrease in education and training activities. The increase in support to scientists, postdoctoral programs, and graduate students and the increase in the number of people directly involved in NSF-supported activities primarily reflect the increase funding in basic and applied research.

Required Supplementary Information
Deferred Maintenance

Deferred Maintenance (Amounts in Thousands)

NSF performs condition assessment surveys in accordance with FASAB Standards No. 6 and No. 14 for capitalized property, plant and equipment to determine if any maintenance is needed to keep an asset in an acceptable condition or restore an asset to a specific level of performance. NSF considers deferred maintenance to be any maintenance that is not performed on schedule, unless it is determined from the condition of the asset that scheduled maintenance does not have to be performed. Deferred maintenance also includes any other type of maintenance that, if not performed, would render the PP&E non-operational. Circumstances such as non-availability of parts or funding are considered reasons for deferring maintenance.

NSF considered whether any scheduled maintenance necessary to keep fixed assets and capital equipment of the agency in an acceptable condition was deferred at the end of the period for FY 2007 and FY 2006. Assets deemed to be in excellent, good, or fair condition are considered to be in acceptable condition. Assets in poor condition are in unacceptable condition and the deferred maintenance required to get them to an acceptable condition are reported. NSF determines the condition of an asset in accordance with standards comparable to those used in the private industry. Due to the environment and remote location of Antarctica, all deferred maintenance on assets in poor condition is considered critical in order to maintain operational status.

At September 30, 2007, NSF determined that scheduled maintenance on 17 items of Antarctic capital equipment in poor condition was not completed and was deferred or delayed for a future period. The largest dollar amount of deferred maintenance for any single item in poor condition approximated \$34. The items included light and heavy mobile equipment. All of the equipment is considered critical to NSF operations and is estimated to require \$106 in maintenance.

At September 30, 2006, NSF determined that scheduled maintenance on 9 items of Antarctic equipment in poor condition was not completed and was deferred or delayed for a future period. The largest dollar amount of deferred maintenance for any single item in poor condition approximated \$60. The items included light and heavy mobile equipment. All of the equipment is considered critical to NSF operations and estimated to require \$82 in maintenance.

Required Supplementary Information

Budgetary Resources by Major Budget Accounts

In the following table, NSF budgetary information for the fiscal years ended September 30, 2007 and 2006, as presented in the Statement of Budgetary Resources, is disaggregated for each of NSF's major budget accounts.

Combining Statement of Budgetary Resources (page 1 of 2)

2007
(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, S&E, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Budgetary Resources						
Unobligated Balance - Brought Forward, October 1	\$ 49,770	27,293	2,777	7,417	116,287	\$ 203,544
Recoveries of Prior Year Obligations	28,137	8,972	152	3,439	3,774	44,474
Budget Authority						
Appropriation	4,665,950	796,693	190,881	263,641	148,640	6,065,805
Spending Authority from Offsetting Collections						
Earned						
Collected	78,821	7,814	-	4,206	3	90,844
Change in Receivable from Federal Sources	(13,583)	160	-	451	-	(12,972)
Change in Unfilled Customer Orders						
Advance Received	67,123	3,265	-	37	-	70,425
Without Advance from Federal Sources	(38,709)	(2,634)	-	47	-	(41,296)
Subtotal - Budget Authority	4,759,602	805,298	190,881	268,382	148,643	6,172,806
Nonexpenditure Transfers, Net	5,460	-	-	250	-	5,710
Permanently Not Available	(20,867)	(16,043)	-	(1,756)	-	(38,666)
Total Budgetary Resources	\$ 4,822,102	825,520	193,810	277,732	268,704	\$ 6,387,868
Status of Budgetary Resources						
Obligations Incurred						
Direct	\$ 4,658,673	798,151	166,210	266,157	173,956	\$ 6,063,147
Reimbursable	92,934	8,432	-	4,678	-	106,044
Total Obligations Incurred	4,751,607	806,583	166,210	270,835	173,956	6,169,191
Unobligated Balance - Apportioned	22,194	99	27,573	1,029	90,814	141,709
Unobligated Balance - Not Available	48,301	18,838	27	5,868	3,934	76,968
Total Status Of Budgetary Resources	\$ 4,822,102	825,520	193,810	277,732	268,704	\$ 6,387,868

Combining Statement of Budgetary Resources (page 2 of 2)

2007
(Amounts in Thousands)

Change in Obligated Balances

Obligated Balance, Net							
Unpaid Obligations - Brought forward,							
October 1	5,768,192	1,469,459	264,130	56,422	189,138	7,747,341	
Less: Uncollected Customer Payments from							
Federal Sources Brought Forward, October 1	(114,854)	(11,820)	-	(256)	-	(126,930)	
Total Unpaid Obligated Balance, Net	<u>5,653,338</u>	<u>1,457,639</u>	<u>264,130</u>	<u>56,166</u>	<u>189,138</u>	<u>7,620,411</u>	
Obligations Incurred	4,751,607	806,583	166,210	270,835	173,956	6,169,191	
Less: Gross Outlays	(4,286,976)	(868,554)	(207,947)	(267,061)	(61,124)	(5,691,662)	
Less: Recoveries of Prior Year Unpaid							
Obligations, Actual	(28,137)	(8,972)	(152)	(3,439)	(3,774)	(44,474)	
Change in Uncollected Customer Payments							
from Federal Sources	52,289	2,474	-	(496)	-	54,267	
Subtotal	\$ <u>6,142,121</u>	<u>1,389,170</u>	<u>222,241</u>	<u>56,005</u>	<u>298,196</u>	\$ <u>8,107,733</u>	
Obligated Balance, Net - End of Period							
Unpaid Obligations	6,204,685	1,398,516	222,241	56,757	298,196	8,180,395	
Less: Uncollected Customer							
Payments from Federal Sources	(62,564)	(9,346)	-	(752)	-	(72,662)	
Total Unpaid Obligated Balance, Net - End of Period	\$ <u>6,142,121</u>	<u>1,389,170</u>	<u>222,241</u>	<u>56,005</u>	<u>298,196</u>	\$ <u>8,107,733</u>	
Net Outlays							
Gross Outlays	4,286,976	868,554	207,947	267,061	61,124	5,691,662	
Less: Offsetting Collections	(145,943)	(11,079)	-	(4,244)	(3)	(161,269)	
Less: Distributed Offsetting Receipts	-	-	-	-	(1,535)	(1,535)	
Net Outlays	\$ <u>4,141,033</u>	<u>857,475</u>	<u>207,947</u>	<u>262,817</u>	<u>59,586</u>	\$ <u>5,528,858</u>	

Combining Statement of Budgetary Resources (page 1 of 2)

2006
(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, S&E, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Budgetary Resources						
Unobligated Balance - Brought Forward, October 1	\$ 56,813	29,232	45,682	7,661	104,286	\$ 243,674
Recoveries of Prior Year Obligations	26,789	12,766	28	2,121	3,077	44,781
Budget Authority						
Appropriation	4,387,520	807,000	193,350	265,500	136,744	5,790,114
Spending Authority from Offsetting Collections:						
Earned						
Collected	104,819	14,839	-	4,506	1	124,165
Change in Receivable from Federal Sources	474	1,141	-	90	-	1,705
Change in Unfilled Customer Orders						
Advance Received	(2,192)	(11,385)	-	-	-	(13,577)
Without Advance from Federal Sources	(15,945)	1,492	-	(5)	-	(14,458)
Subtotal - Budget Authority	4,474,676	813,087	193,350	270,091	136,745	5,887,949
Nonexpenditure Transfers, Net	7,725	-	-	250	-	7,975
Permanently Not Available	(75,524)	(19,467)	(2,469)	(5,369)	-	(102,829)
Total Budgetary Resources	\$ 4,490,479	835,618	236,591	274,754	244,108	\$ 6,081,550
Status of Budgetary Resources						
Obligations Incurred						
Direct	\$ 4,353,308	799,721	233,814	262,825	127,821	\$ 5,777,489
Reimbursable	87,401	8,604	-	4,512	-	100,517
Total Obligations Incurred	4,440,709	808,325	233,814	267,337	127,821	5,878,006
Unobligated Balance - Apportioned	3,722	128	2,777	1,035	113,210	120,872
Unobligated Balance - Not Available	46,048	27,165	-	6,382	3,077	82,672
Total Status of Budgetary Resources	\$ 4,490,479	835,618	236,591	274,754	244,108	\$ 6,081,550

Combining Statement of Budgetary Resources (page 2 of 2)

2006
(Amounts in Thousands)

Change in Obligated Balances

Obligated Balance, Net						
Unpaid Obligations - Brought forward,						
October 1	5,599,212	1,556,429	211,273	52,485	150,795	7,570,194
Less: Uncollected Customer Payments from						
Federal Sources Brought Forward, October 1	(130,325)	(9,188)	-	(170)	-	(139,683)
Total Unpaid Obligated Balance, Net	5,468,887	1,547,241	211,273	52,315	150,795	7,430,511
Obligations Incurred	4,440,709	808,325	233,814	267,337	127,821	5,878,006
Less: Gross Outlays	(4,244,939)	(882,529)	(180,929)	(261,280)	(86,401)	(5,656,078)
Less: Recoveries of Prior Year Unpaid						
Obligations, Actual	(26,789)	(12,766)	(28)	(2,121)	(3,077)	(44,781)
Change in Uncollected Customer Payments						
from Federal Sources	15,470	(2,632)	-	(85)	-	12,753
Subtotal	\$ 5,653,338	1,457,639	264,130	56,166	189,138	\$ 7,620,411
Obligated Balance, Net - End of Period						
Unpaid Obligations	5,768,192	1,469,459	264,130	56,422	189,138	7,747,341
Less: Uncollected Customer						
Payments from Federal Sources	(114,854)	(11,820)	-	(256)	-	(126,930)
Total Unpaid Obligated Balance, Net - End of Period	\$ 5,653,338	1,457,639	264,130	56,166	189,138	\$ 7,620,411
Net Outlays						
Gross Outlays	4,244,938	882,529	180,930	261,280	86,401	5,656,078
Less: Offsetting Collections	(102,627)	(3,454)	-	(4,506)	(1)	(110,588)
Less: Distributed Offsetting Receipts	-	-	-	-	(4,207)	(4,207)
Net Outlays	\$ 4,142,311	879,075	180,930	256,774	82,193	\$ 5,541,283

OTHER FINANCIAL REPORTING INFORMATION

Debt Collection Improvement Act of 1996

Net Accounts Receivable totaled \$24,808 thousand at September 30, 2007. Of that amount, \$24,561 thousand is due from other federal agencies. The remaining \$247 thousand is due from the public. NSF fully participates in the Department of the Treasury Cross-Servicing Program. In accordance with the Debt Collection Improvement Act, this program allows NSF to refer debts that are delinquent more than 180 days to the Department of the Treasury for appropriate action to collect those accounts. In FY 2004, OMB issued M-04-10, *Memorandum on Debt Collection Improvement Act Requirements* which reminded agencies of their responsibility to comply with the policies for writing-off and closing-out debt. Based on this memo, NSF has now incorporated the policy of writing-off delinquent debt more than two years old. Additionally, NSF seeks Department of Justice concurrence for action on items over \$100,000.

Cash Management Improvement Act (CMIA)

In FY 2007, NSF had no awards covered under CMIA Treasury-State Agreements. NSF's FastLane system with grantee draws of cash make the timeliness of payments issue under the Act essentially not applicable to the agency. No interest payments were made in FY 2007.

**SUMMARY OF FINANCIAL STATEMENT AUDIT
AND MANAGEMENT ASSURANCES**

**Table 1.
Summary of Financial Statement Audit**

Audit Opinion	Unqualified				
Restatement	No				
Material Weakness	Beginning Balance	New	Resolved	Consolidated	Ending Balance
Total Material Weaknesses	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

**Table 2.
Summary of Management Assurances**

Effectiveness of Internal Control over Financial Reporting (FMFIA § 2)					
Statement of Assurance	Qualified				
	Beginning Balance	New	Resolved	Consolidated	Ending Balance
Total Material Weaknesses	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Effectiveness of Internal Control over Operations (FMFIA § 2)					
Statement of Assurance	Unqualified				
	Beginning Balance	New	Resolved	Consolidated	Ending Balance
Total Material Weaknesses	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Conformance with Financial management system requirements (FMFIA § 4)					
Statement of Assurance	Systems conform to financial management system requirements				
	Beginning Balance	New	Resolved	Consolidated	Ending Balance
Total Non-Conformances	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Compliance with Federal Financial Management Improvement Act (FFMIA)					
Overall Substantial Compliance	Agency		Auditor		
	Yes		Yes		
1. System Requirements	Yes				
2. Accounting Standards	Yes				
3. USSGL at Transaction level	Yes				

Note: “n/a” indicates not applicable.

IMPROPER PAYMENTS INFORMATION ACT (IPIA) REPORTING

The Improper Payments Information Act (IPIA) of 2002 and the recently issued OMB Circular A-123, Appendix C guidance require agencies to review all programs and activities, identify those that are susceptible to significant erroneous payments, and determine an annual estimated amount of erroneous payments made in those programs.

In 2005, in consultation with OMB, NSF revamped its IPIA approach and successfully executed it. NSF contracted for an annual statistical review of Federal Cash Transaction Report (FCTR) transactions received from grant recipients under the purview of the agency's IPIA program. NSF staff worked closely with the contractors to create a milestone chart, develop a sampling plan, and ensure ongoing grantee communication throughout the review.

NSF showed statistically low improper payment rates for our research and education awards. Consistent with OMB's guidance on improper payments, NSF requested, and OMB granted, relief from annual improper payments reporting because NSF improper payments were below the reporting threshold for two consecutive years. NSF will need to conduct a risk assessment or may be required to re-initiate measurement activities if there are any substantial changes to the program (e.g., legislation, funding, etc.) that may impact payment accuracy. NSF's next IPIA reporting is due in FY 2009.

In addition, NSF has established a robust, comprehensive grant pre-award and post-award monitoring program that builds risk reduction into its operational design. As part of this program, NSF expanded its FCTR transaction testing to cover low, medium and all high-risk awards. The current FCTR transaction testing is more comprehensive than the one used in NSF's 2005 IPIA initiative.

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NATIONAL SCIENCE FOUNDATION
4201 Wilson Boulevard
ARLINGTON, VIRGINIA 22230



OFFICE OF
INSPECTOR GENERAL

October 17, 2007

MEMORANDUM

To: Dr. Steven C. Beering
Chair, National Science Board

Dr. Arden Bement
Director, National Science Foundation

From: Dr. Christine C. Boesz
Inspector General, National Science Foundation

Subject: Management Challenges for NSF in FY 2008

In accordance with the Reports Consolidation Act of 2000, I am submitting our annual statement summarizing what the Office of Inspector General (OIG) considers to be the most serious management and performance challenges facing the National Science Foundation (NSF). We have compiled this list based on our audit and investigative work, general knowledge of the agency’s operations, and the evaluative reports of others, such as the Government Accountability Office and NSF’s various advisory committees, contractors, and staff.

This year’s management challenges are again organized under six broad issue areas: award administration; human capital; budget, cost and performance integration; information technology; U.S. Antarctic Program; and merit review. Ten challenges are drawn from last year’s list, some of which reflect areas of fundamental program risk that are likely to require management’s attention for years to come. Two new management challenges appear on this year’s list: USAP property plant and equipment, and audit resolution. We note that NSF continued to make progress this past year on several longstanding challenges.

If you have any questions or need additional information, please call me at 703-292-7100.

Award and Contract Administration

Post-award administration policies. NSF has worked toward developing and implementing an improved post-award administration regimen since 2002, when the OIG audit of NSF’s financial statements first recommended that the agency strengthen its policies and practices. An effective post-award monitoring program should ensure that: awardees are complying with award terms and conditions and federal regulations; adequate progress is being made toward achieving the objectives and milestones of the program and; expenditures listed on NSF’s financial statements are accurate. In FY 2007, NSF continued to make progress toward achieving those goals by correcting problems, such as poor documentation, that prevented the auditors from determining whether the program had been effectively implemented. Along with improving the quality and consistency of the documentation, the agency increased its oversight of high risk awardees by conducting 22 site visits and 115 desk reviews this year. NSF’s administrative oversight of these awards has greatly improved over the past five years, and the financial statement auditors determined this year that it should no longer be classified as a significant deficiency. However, our auditors will continue to monitor NSF’s efforts to follow up and act on problems identified in NSF’s site visits and reviews.

The challenge for the agency going forward is to maintain its commitment to effective post-award administration and refocus its efforts toward improving the monitoring of *programmatic* performance. The responsibility for this activity resides with NSF’s program officers, who need adequate time, written guidance, appropriate training, and effective monitoring tools to perform this vital function. But, since their primary responsibility is proposal review and award selection, little time is left for managing on-going awards. In addition, NSF provides limited guidance to program officers on how to oversee the programmatic performance of awardees, and no formal training is offered on the administrative and financial requirements contained in OMB Circulars. Finally, a recent OIG audit indicated that over the five-year period from May 1, 1999 to May 31, 2004, more than 45,000 (42%) required annual project reports on the progress of individual NSF awards had not been submitted. Without adequate support from the agency in the form of additional time, training, guidance, and monitoring tools, program officers may not be able to detect problems with an award in time to intervene.

Post-award oversight of cost-shared commitments by NSF awardees continues to pose a challenge to the agency. Although new cost-shared commitments by awardees have steadily decreased since the National Science Board decided to eliminate non-statutory cost-sharing requirements in 2004, our audits continue to find poorly documented cost-shared contributions on awards made before the Board acted. Last year, OIG auditors reviewed awards with more than \$13 million in cost-shared funds. In one case, a university was not able to document 90 percent of the \$2.1 million it claimed to cost-share. Recently the National Science Board decided to reconsider its policy on cost sharing. The Board has formed a task force to review the implications of their 2004 action and has been asked by Congress to report on the impact of suspending cost-sharing

for existing programs that were developed around industry partnerships and that historically required cost sharing. Whether or not cost sharing is reintroduced in the future, the challenge for the agency is to assure that awardees fulfill their remaining cost sharing obligations, which are still significant.

Contract monitoring. The monitoring and administration of NSF contracts first appeared as an internal control deficiency in the FY 2004 audit of the agency’s financial statements because NSF did not adequately review vouchers submitted by contractors who received advance payments. NSF has initiated corrective actions over the past two years, including reviewing vouchers submitted by larger contractors on a regular basis. It has also updated its contracting manual to strengthen its pre-award risk assessment guidance, contracting personnel roles, and contracting responsibilities to provide assurance that the problem will not recur.

However, contract monitoring remains a major management challenge because NSF does not have a comprehensive, risk-based system to oversee and monitor its contract awards and ensure that the requirements of each contract are being met. This year the financial auditors reviewed NSF’s progress and identified additional areas for improvement in post-award contract monitoring activities. They found that the contracting manual lacks sufficient material on post-award monitoring, risk assessment, and risk mitigation procedures. In fact, the problems that have affected NSF’s recordkeeping for its property, plant and equipment in Antarctica (see USAP management challenge) are a direct result of inadequate monitoring of an NSF contractor. The agency also needs a program to provide training for contracting officer’s technical representatives and detailed policies and procedures that make clear what is required of them.

Management of large infrastructure projects. NSF’s investment in large infrastructure projects and instruments such as telescopes and earthquake simulators presents the agency with a host of administrative and financial issues. In past audits, we have focused on the difficult challenge of managing the design, construction, and financing of these cutting edge projects and completing the facilities on time and within budget. The agency made progress this past year in addressing some of our longstanding concerns. For example, NSF has implemented our recommendation to establish a system that tracks the total costs of major equipment and facilities. Such information is necessary to maintaining effective project management during the construction phase and fostering an increased awareness of the total life-cycle costs of a large facility, including operations and maintenance. Training of agency staff on the new systems is scheduled for the coming year.

However, some of the issues we have raised in the past persist. While NSF has increased the personnel assigned to its Large Facilities Office to four, we are concerned that it is not adequately staffed to handle its increasing responsibilities for oversight of the full life-cycle of these facilities. Though the agency updated its facilities manual during the past year, it still has not completed the in-depth guidance necessary to carry out the broader policy. In addition, recommendations made last year by the Business and

Operations Advisory Committee¹ to establish annual facility reviews, formal risk-assessments, and a process for projecting how long the facility will meet future research needs, have not yet been implemented. Though progress was made on developing a guide for on-site visits, a final version of the guide has yet to be issued.

While NSF has improved its management of the construction phase of new facilities, it must continue to not only improve its management of and knowledge about the entire facility life cycle but also plan for the increased impact that facilities are having on NSF’s portfolio of awards as a whole. NSF’s challenge for managing future investments in facilities and infrastructure projects lies in the agency’s ability to perform more comprehensive planning for the overall life-cycle of these projects, and to include consideration of project risk management principles in making funding and other significant decisions.

In addition, NSF needs to determine a method for making strategic portfolio-management decisions. Operating costs of large facilities are continuing to grow, as are the number of active facilities in all phases of development. NSF is now faced with making tough funding decisions among competing priorities. Proposed facilities are competing for scarce resources not only with other new facilities, but also with existing facilities and traditional single-investigator research. NSF’s challenge is to create a portfolio management plan that takes into account these competing priorities and the research needs of the entire scientific community.

Audit resolution. Audit resolution, closure, and follow-up represent the final critical steps of the oversight process envisioned by the Congress when it passed the IG Act of 1978. Without properly developed and executed procedures to evaluate audit findings and correct the problems that have been identified, the value of audits and program reviews is largely lost, and a key element of an agency’s internal control system is seriously impaired. It is vital that NSF ensure prompt and proper resolution of OIG audits, the complete and timely implementation of audit recommendations, and the optimal recovery of questioned costs. For unknown reasons, the historic rate at which NSF has sustained costs questioned by its auditors has been low relative to other government agencies. Another challenge for NSF is to ensure effective implementation of proposed corrective actions given resource constraints and the large number of NSF awardees. OIG plans to contract with a third party in FY 2008 to review this important agency responsibility.

Human Capital

Workforce planning. OIG has identified workforce planning as a management challenge since 2002, the year that NSF’s Management Controls Committee first highlighted human capital as “a significant concern” during a long period in which its workload was growing much more rapidly than its workforce. By some measures, NSF’s workload has

¹ Report by the Facilities Subcommittee of the NSF Business and Operations Advisory Committee, June 10, 2006

become more manageable over the past two years as the number of program officers has risen from 385 to 438, effectively reducing the number of proposals handled per program officer from 113 in FY 2004 to 97 in FY 2006.

NSF appears to have made progress toward the goal of improving the planning process. During FY 2006, the agency developed a workload analysis tool to determine the FTE needs of the agency as a whole based on a directorate-by-directorate analysis. Although the tool is currently of limited use in allocating FTEs across directorates or prioritizing needed FTEs, it provides an objective basis for projecting and justifying the agency’s overall staffing needs. Over the past year NSF has initiated a succession planning process for recruiting, developing, and training NSF’s future managers. The agency also reports that a workforce plan aligned to the goals of the new NSF strategic plan has been completed and is being reviewed for compatibility with other key planning documents, such as the human capital plan and the succession plan.

However, in June 2007, OMB downgraded NSF’s score for human capital because it did not deliver a skill gap assessment for all mission-critical occupations to the Office of Personnel Management (OPM). NSF has subsequently worked with OMB and OPM to revise the list of future deliverables and expects to recover its “green” status for human capital within the next two quarters. The agency acknowledges that it has other remaining human capital challenges, including distributing administrative functions more effectively, implementing the workforce and succession plans, and completing a new human capital management plan.

The agency is also considering potential solutions to the various issues associated with the employment of temporary professional staff known as “rotators”. NSF has long valued rotators for the fresh scientific knowledge they bring to the agency, but are vulnerable to criticism for their lack of institutional knowledge and management skills, which are particularly important at the senior level. In 2008, NSF expects to initiate an executive-level mentoring and training program called “on-boarding” that will include learning modules specifically geared toward those who lack experience and knowledge about the ways of NSF and the federal government. The proposal came out of a report issued by a committee of senior staff tasked with assessing the adequacy of the agency’s senior executive leadership in terms of quantity, quality, and balance between permanent and temporary professionals. The committee recommended that the agency improve the balance between permanent and temporary executive-level leadership across NSF’s organizational units to ensure organizational stability, the retention of institutional knowledge, and the infusion of new talent. While senior management has accepted these recommendations, implementation will pose a challenge.

Administrative infrastructure. Inadequate office space and travel funds continue to constrain NSF’s ability to administer its growing award portfolio by limiting the number of new hires that can be processed and on-site visits made to monitor the performance of awardees. The amount spent on office space has risen at a rate of just 6% per year, while funds available for travel have increased just 7% per year over the past 4 years, barely keeping pace with price increases. Meanwhile, the widespread perception of problems

that has beset NSF’s hiring and travel processing systems continued to produce low ratings from staff that participated in the most recent employee satisfaction survey. Both systems have been improved and upgraded over the past year, and the agency expects that this year’s surveys will reflect increased satisfaction with these two systems. However, problems in integrating the travel and financial systems in particular persist, causing inconvenience to the staff and consuming more of the traveler’s time than necessary. The challenge for NSF is to continue to improve the systems so they are easier for staff to use.

Budget, Cost and Performance Integration

Performance reporting. The Government Performance and Results Act (GPRA) was enacted in 1993 for the purpose of making government agencies more results-oriented. The Act requires each agency to develop a strategic plan that establishes specific goals against which its performance can be measured. GPRA poses a significant challenge to agencies engaged in scientific research because the benefits are notoriously difficult to measure and in some cases may only become apparent over many years. To assist in this assignment, NSF convenes an Advisory Committee on GPRA each year to assess progress in achieving its strategic goals. As in past years, this year’s committee made its evaluations based on a judgmental sample of awards chosen by NSF staff. The committee suggested that their conclusions would be more “robust” if it had better assurance that the awards selected by NSF for their review were representative of the entire project portfolio. The committee also stated that the issue, which had been raised in previous years, “needs to be addressed to enhance the credibility of the assessment process.” Lastly, the committee expressed additional concerns pertaining to the portfolio balance of some strategic goal areas and the criteria it was asked to apply in carrying out its evaluation responsibilities.²

Publicizing the results of scientific research is also important to advancing NSF’s science and education goals. OIG issued two related reports during 2006 on disseminating the results of NSF-funded research to the public. In the first report, we recommended that the agency make publication citations for each research project that it funds available on its website.³ In a follow-on report, OIG assessed interest among NSF’s stakeholders and managers in making even more information about research outcomes available to the public, and found strong interest in providing brief summaries of the results of each project NSF funds on the agency website.⁴ NSF agreed to take action in both cases and is in the process of implementing the recommendations. Most recently, the Congress has mandated through legislation that the agency report research results. The America Competes Act (Public Law No. 110) requires that NSF ensure that all final project reports and citations of published research documents resulting from research funded, in whole or in part, by the agency are made available to the public in a timely manner and electronically through NSF’s website. The agency should expeditiously implement this provision in order to further the public’s knowledge and understanding of scientific

² Report of the Advisory Committee for GPRA Performance Assessment FY 2007, pp. 10-11

³ NSF’s Policies on Public Access to the Results of NSF-Funded Research, February 2006, OIG 06-2-004

⁴ Interest in NSF Providing More Research Results, September 2006, OIG 06-2-013

research, assist researchers in building on prior work in their fields, and ultimately make its operations more transparent and accountable.

Cost information. Managerial (cost) accounting information is used to evaluate operational effectiveness and efficiency. However, NSF does not collect enough information about its operational costs to enable its managers and oversight officials to adequately assess its past performance or to provide a historical context that would inform future decisions. We continue to believe that the measurement and comparison of inputs to outputs is essential to any meaningful review of an organization’s efficiency and that NSF would greatly benefit by adding this capability. In recent years, the agency has enhanced its cost accounting system so it can track costs according to strategic goals, as well as the ten investment categories that are subject to OMB evaluation. While the current system provides aggregated costs that may be useful in assessing strategy, it does not track the costs of NSF’s internal business processes and activities, such as soliciting grants, conducting merit reviews, or performing post-award grant administration. Such information would have been especially useful in evaluating the costs and benefits of many of the recommendations to re-engineer its business processes that the agency received as a result of its recent Business Analysis contract. The challenge for NSF is to obtain such information at a modest expense and without placing an additional recordkeeping burden on staff.

Information Technology

Implementing enterprise architecture. Enterprise architecture (EA) is a key component of the President’s Management Agenda and its Expanded Electronic Government initiative. EA refers to a blueprint for organizational change that describes, in both operational and technological terms, how an entity currently operates and how it intends to operate in the future. It also includes a plan for transitioning to this future state. A well-defined EA is an essential tool for leveraging information technology (IT) in the transformation of business and mission operations.

In 2006, the Government Accountability Office (GAO) issued a report on the progress made by 27 federal departments and agencies toward establishing EA programs. GAO found that NSF lagged behind all but four of the agencies studied, satisfying only 52 percent of GAO’s core elements for effective EA management. In 2007, the Office of Management and Budget (OMB) reviewed NSF’s EA program, rated the program as “Green” both overall and in each individual assessment area, and gave it one of the highest scores of the 26 programs it reviewed. However, OMB also made several recommendations pertaining to various elements of EA such as transition strategy, cross agency initiatives, value measurement, outcomes, and performance data. NSF has developed a plan to address these recommendations as it continues to implement its EA program.

Successful implementation of its EA program is critical to almost all of NSF’s activities, and should result in both cost savings and improved performance. Some of the desired outcomes NSF describes in its EA Management Guide are fewer applications, reduced

system complexity, and improved application and systems interoperability, data integration, and information sharing. In particular, we note that navigating NSF systems to get coordinated financial and programmatic information can be difficult and may impede the efforts of program managers and other staff from overseeing the financial and administrative requirements of their awardees. We, therefore, consider EA to be a challenge that continues to require management attention and support.

United States Antarctic Program

USAP long-term planning. At a time of growing public interest in scientific research, the U.S. Antarctic Program (USAP) carries a higher profile than many other NSF-funded projects. The agency’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. Like a small government, OPP provides basic services through a number of contractors to as many as 3000 Americans who reside and work in Antarctica, as well as the infrastructure, instrumentation, and logistics necessary to support the research efforts of scientists from around the world. The successful operation of the USAP requires a unique management and administrative skill set. 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.

Over the past few years, several program reviews have focused on needed improvements in long-range planning for the USAP. A 2003 OIG audit recommended that NSF develop a life-cycle oriented capital asset management program to ensure that infrastructure is replenished as needed and does not jeopardize the safety, security, or mission of those who locate in Antarctica.⁵ This recommendation remains unresolved. However, during FY 2007, OPP began to address recommendations to improve long-range planning made by last year’s Committee of Visitors (COV). The COV identified the important need for long-range planning to 1) take into account future research needs and their attendant logistical challenges, and 2) include improved projections for the cost of servicing specific research projects in order to ensure adequate planning. At the USAP annual planning conference attended by scientists, contractors, and NSF staff, OPP presented future infrastructure improvements that are either being planned or contemplated and listened as researchers discussed their future needs for services and technology. In response to the second recommendation, OPP presented a new costing methodology at the conference aimed at simplifying cost projections and making them more accurate. However it is too soon to know if this approach will resolve the issues identified by the COV.

Information technology systems also play an essential life-support role in such a harsh environment. The evaluation report our office is required to prepare under the Federal Information Security Management Act (FISMA) noted again in 2007 that NSF needed to make improvements in the USAP operating platform and in disaster recovery, though

⁵ Audit of Occupational Health & Safety and Medical Programs in the United States Antarctic Program, OIG 03-2-003, March 2003

progress had been made in both areas.⁶ The agency is funding studies on what course of action will best address the problems raised in the report. The lack of a disaster recovery plan means that USAP may not be able to recover in a timely or complete manner from a significant incident, possibly resulting in USAP incapacity to carry out its life-support mission at the Antarctic bases. The risks inherent in the USAP program create a significant ongoing challenge for NSF.

Property, plant, and equipment. In FY 2006, the financial statement auditors noted that NSF had not been verifying cost information submitted by its primary USAP contractor or by third parties providing shipping and transportation services. The cost of shipping construction materials to Antarctica is significant, sometimes more than that of the materials themselves, and is capitalized as part of the construction cost of the asset. The auditors also noted that NSF had not maintained original source documentation for USAP property plant and equipment (PP&E) acquisitions.

Without proper verification, as the auditors’ FY 2006 report pointed out, NSF could not be certain that the cost information provided by the contractors was reliable. Therefore, NSF management could not have assurance that the millions of dollars related to PP&E carried on NSF’s balance sheet are accurate. The auditors have recommended that NSF obtain documentation for capitalized property acquired in past years, implement documentation verification procedures for Antarctic contractor’s FY 2007 and future activity, and maintain an electronic copy of significant source documentation examined during that verification process. In FY 2007, NSF began to verify accounting information from its primary contractor for current year activity, but not for prior years nor for transportation services.

During the past year, auditors have found numerous instances in which NSF’s contractor did not record property transactions in a timely manner, support recorded transactions with the proper documentation, or properly calculate and record freight costs. The auditors found that NSF’s oversight of the contractor’s internal controls over the processing, recording, and reporting of PP&E needs improvement.

NSF and its contractor use various PP&E systems to capture and report their activities for the USAP. Financial information from those systems is not integrated with NSF’s general ledger system so the data are more vulnerable to internal control problems and error, as the information must be manually reentered in each system. In addition, a majority of USAP PP&E financial activities originate from the contractor’s outdated software, resulting in a manually intensive and time-consuming financial reporting process that is prone to human error. Because NSF’s contractual relationship with the contractor is not permanent in nature, the change to another contractor also exposes NSF to potential loss of data.

⁶ NSF Federal Information Security Management Act, 2007 Independent Evaluation Report

Merit Review

Broadening Participation in the Merit Review Process. At the core of NSF’s operations is the merit review process, which is intended to ensure that the review and selection of proposals for funding are fair and conducted according to the highest standards. Broadening the participation of minorities and women in the merit review process continues to be a high priority of the agency and a critical step in accomplishing the broader goal of diversifying the STEM⁷ workforce. NSF’s 2006-2011 strategic plan elevated the status of broadening participation, stating that it will “expand efforts to broaden participation from underrepresented groups and diverse institutions in all NSF activities”.⁸ During FY 2006, the funding rate for both underrepresented minorities and women increased from the previous year by one percentage point, but failed to keep pace with the increase in the funding rate for all PIs, which increased by two points. The funding rate for African American PIs ran counter to the trend of an increasing overall funding rate and slipped from 24% to 22%, three points below the rate for all PIs. Year-to-year variation in the funding rate of any particular group is not necessarily a cause for concern, but it should be monitored to determine if there are any developing trends that require further review or corrective action.

Although NSF cannot legally require its merit panel reviewers to provide demographic information, it has since 2001 requested that they provide such data to determine the extent to which underrepresented groups participate in the NSF reviewer population. The percentage of reviewers who report demographic information has increased from just 9% in 2002 to 25% in 2006. Among reviewers who voluntarily provided demographic information, 36% indicated that they were members of an underrepresented group, a proportion that has remained fairly stable over time. Last year, both the National Science Board and the Advisory Committee on GPRA recommended that NSF improve the information in the reviewers database. In its most recent report, the Committee on Equal Opportunities in Science and Engineering recommended that NSF “survey and report annually on the participation of women, underrepresented minorities, and persons with disabilities in each review panel, advisory committee, and committee of visitors”.⁹ Because developing the full potential of underrepresented groups is likely to confer important social and economic benefits, the effort to broaden participation will continue to be an important challenge facing NSF.

⁷ Science, Technology, Engineering and Mathematics

⁸ National Science Foundation Strategic Plan FY 2006-2011, pp. 9-10

⁹ 2005-2006 CEOSE Biennial Report to Congress, p.32

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OFFICE OF THE
DIRECTOR

November 5, 2007

MEMORANDUM

To: Dr. Christine C. Boesz
Inspector General, NSF

From: Dr. Arden L. Bement, Jr.
Director, NSF

Subject: Response to the Inspector General’s Memorandum
Management Challenges for NSF in 2008

Thank you for your memorandum of October 17, 2007 regarding potential management challenges the National Science Foundation (NSF) faces during the remainder of Fiscal Year (FY) 2008, and for your acknowledgement of the significant progress NSF has made over this last fiscal year in meeting the FY 2007 management challenges as highlighted below. As in the past, your memorandum will be discussed in the Senior Management Round Table (SMaRT).

NSF has focused on continuing progress on implementation of the requirements of *Office of Management and Budget Circular A-123: Management’s Responsibility for Internal Control*, the most recent implementing guidance for the *Federal Managers’ Financial Integrity Act of 1982*. These internal controls are essential to ensuring compliance with laws and regulations, reliable financial reporting, and the efficiency and effectiveness of NSF operations. A summary of the Foundation’s related activities and results are in this year’s *Annual Financial Report* in the Management’s Discussion and Analysis, “Management Assurances” discussion.

During this past year, NSF’s accomplishments on these management challenges reflect significant progress for the Foundation on its ongoing commitment to excellence and results-oriented management. Once again, NSF has demonstrated its stewardship toward our national goals, and dedication and commitment for the agency’s success. The Foundation has invested in essential business models, policies and practices essential to safeguarding public funds, and has continued to maintain a reputation for consistency, efficiency, and quality as we met a variety of challenges while experiencing growth in our budget and program activities.

A handwritten signature in cursive script, appearing to read 'Arden L. Bement, Jr.'.

Arden L. Bement, Jr.
Director

Attachment

cc: Chair, National Science Board

**NATIONAL SCIENCE FOUNDATION
Progress during Fiscal Year 2007
On the OIG’s 2007 Management Challenges**

On October 16, 2006, the Office of Inspect General (OIG) issued a statement summarizing what the OIG considered to be the most serious management and performance challenges facing the National Science Foundation. These are shown on the table below. This report summarizes NSF actions on these management challenges.

OIG Management Challenges for FY 2007	
1. Award Administration	<ul style="list-style-type: none"> • Post-Award Administration > Cost Sharing • Large Infrastructure Projects • Contract Monitoring • Promoting Integrity
2. Human Capital	<ul style="list-style-type: none"> • Workforce Planning > NSF’s Non-permanent Workforce • Administrative Infrastructure > Space Limitations > FedTraveler
3. Budget, Cost and Performance Integration	<ul style="list-style-type: none"> • Performance Reporting > Project Reporting • Cost Information
4. Information Technology	<ul style="list-style-type: none"> • Enterprise Architecture
5. U.S. Antarctic Program	<ul style="list-style-type: none"> • Long-term Planning
6. Merit Review	<ul style="list-style-type: none"> • Broadening Participation

Summary of NSF Actions on FY 2007 OIG Management Challenges

1. AWARD ADMINISTRATION

Post-Award Administration: NSF continues to refine its post-award financial and administrative monitoring program. Within the last three years, BFA has established the Division of Institution and Award Support to lead the Agency’s cradle-to-grave award administration efforts; significantly increased staff and contractor expertise specifically dedicated to post-award activities; and continued to incorporate government-wide best practices throughout its efforts. Through a combined set of activities (on-site

reviews, business system reviews, desk reviews, transactional testing), NSF is confident in its ability to ensure exemplary stewardship of tax payer investment. Over the past several years we have worked diligently to develop a comprehensive and structured post-award monitoring program. The benefits of this program include the following:

- Using the sound and cost-beneficial approach of a risk assessment model allows us to focus monitoring resources on the 25 percent of NSF’s awardees that manage 93 percent of the award dollars. In this way, we ensure stewardship over federal funding and manage burden on the community. We have used a mixed protocol of desk reviews, on-site visits, and financial transaction testing that further targets the Foundation’s resources in this endeavor.
- NSF now detects potential problems earlier in the award life cycle, and we can assist organizations in addressing deficiencies that impact their ability to adequately manage Federal funds and thus possibly avoiding audit findings.
- With our more holistic perspective, we are able to mine monitoring results for “lessons learned” that help form both ours and the institutions’ policies and practices around sound stewardship.

Our Award Monitoring and Business Assistance Program is increasingly recognized as a standard of excellence across the federal government, consistent with the Foundation’s reputation for first-class management.

Specific 2007 Achievements:

- Continued implementation and refinement of the Award Monitoring and Business Assistance Program (AMBAP); the program provides disciplined and comprehensive post-award monitoring for NSF’s high-risk and medium-risk awards. In FY 2007, staff conducted 22 AMBAP site visits; in addition, 115 desk reviews were completed and 38 are in progress, as of September 26, 2007.
- A database system was developed to enhance the tracking of post-award monitoring site visit and desk review activities.
- Submission of Indirect Cost Rate proposals from potential awardees has been streamlined.
- NSF’s first, unified set of standard operating procedures for post-award monitoring now includes upgrades of site visit protocols and templates designed to elicit consistent and comprehensive information. The desk review protocol has been developed and implemented. Protocols for follow-up activities have been completed and are currently being implemented for both site visits and desk reviews.

Future plans include full implementation of the database and analytical tools, analysis of the survey feedback, and continued assessment and refinement of the AMBAP activities.

Cost Sharing: The National Science Board eliminated program-specific cost sharing in October 2004. NSF has worked diligently to implement the Board’s policy and communicate that there is no expectation by the Foundation that proposals submitted for funding will include a cost sharing component.

- Through its internal clearance processes, NSF continues to work diligently with all program offices to remove cost sharing requirements in remaining solicitations. The Foundation has ensured that no new solicitations have been issued that contain cost sharing since the Board changed the policy except as required by law, as noted below.
- Briefings and extensive back-up material have been provided to the Board summarizing the current status of cost sharing at NSF.
- All of the Foundation’s major policy documents, both internal and external, have been revised to reflect elimination of program-specific cost sharing. The “Grant Proposal Guide,” “Award & Administration Guide” and the “Proposal and Award Manual” all reflect this change, as well as elimination of the long-standing de minimus across-the-board statutory cost sharing requirement that is no longer included in NSF Appropriations language.

- The NSF Grant General Conditions (GC-1) and the Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) have also been updated to reflect these changes and the new terms and conditions are referenced in all award notices issued on or after June 1, 2007.
- BFA’s formal and informal internal and external outreach programs include discussions of this policy change.
- Cost sharing, where still required on older awards, continues to be an important element in NSF’s post award monitoring visits and any needed follow-up plans. A briefing to senior management in April 2007 highlighted the essential elements of the policy and included information to assist Program Officers in evaluating the annual notifications submitted by grantees whose awards contain cost sharing of \$500,000 or more.
- Revised the Major Research Instrumentation program solicitation to incorporate the statutorily mandated cost sharing requirement imposed by the America Competes Act. A "Dear Colleague" Letter also was issued to announce this requirement to the research community.

Large Infrastructure Projects:

- The Large Facility Project Office (LFP) has increased the number of staff every year since 2004. Presently, there are four FTEs, including the Deputy Director, and one IPA.
- The “Large Facilities Manual” was released in May 2007. The manual provides guidance for NSF staff and awardees to carry out effective project planning, management, and oversight of large facilities. Supplemental modules are being developed during FY 2008.
- Tracking and reporting on facility obligations by lifecycle phase uses the existing Financial Award System (FAS) and the e-Jacket web-based system. Reports on obligation funding and expenditure spending can easily be run for a facility by fiscal year, lifecycle phase(s) and project. An obligation report provides each funding transaction that was made to an entity in a particular fiscal year. An expenditure report provides each transaction in which money is drawn down from an obligation by fiscal year. In FY 2008, the Large Facility staff will continue to discuss with NSF program directors of large facilities how to best capture the funding of obligations that is used to do research at a facility. Presently, we are relying on ad hoc reporting.
- Training is being developed on the Manual and also a new web-based training system is being developed on the financial and reporting tracking of obligations. This training will be offered to everyone at NSF. *Project Science Workshop* is designed specifically for large research facilities and is held annually. The workshop, held at the Beckman Center at the University of California, Irvine, October 16-19, 2007, provides discussion and best practices on project management from the project and agency personnel. This workshop is also attended by researchers supported by other agencies, such as the Department of Energy, and foreign governments.
- The Business System Review (BSR) Guide has been used for a number of site visits during 2007. A Facilities Subcommittee of the Business and Operations Advisory Committee met on March 28-29 at NSF to review and make recommendations on the guide. Their report will be forwarded to the Business and Operations Advisory Committee (B&O AC) in the Fall 2007.

Contract Monitoring: The Division of Acquisition and Cooperative Support (DACS) will continue to perform Quarterly Expenditure Report reviews as a risk mitigation mechanism for three of NSF’s major advance payment contracts.

The NSF “Contracting Manual” has been updated to clearly establish a contract monitoring and oversight program. The revised “Contracting Manual” includes a clear delineation of contracting personnel’s roles and responsibilities regarding the DACS oversight program. Furthermore, the manual includes a file check list and file review checklist to ensure that contractual files contain the appropriate documentation.

DACS has hired a designated acquisition workforce manager to coordinate the training of NSF employees responsible for maintaining and documenting receipt of contract deliverables, and increased its staffing to

include two procurement analysts to implement the oversight program, and is aggressively moving forward to filling additional vacancies.

Promoting Integrity: NSF’s strategy to promote the integrity of scientific and engineering research has several dimensions:

- > *Training of Future Scientists and Engineers.* Examples include:
 - Ethics training for all Science and Technology Centers (STC) and Engineering Resource Centers (ERC).
 - Integrative Graduate Education and Research Traineeship program requires projects to provide instruction in ethics and the responsible conduct of research.
 - > *Sessions with Institution and PI Community.* Examples include:
 - Office of Inspector General conducts a session which highlights the importance of scientific integrity at all NSF Regional Grants Conferences.
 - Continuing discussions regarding ethics are held at Federal Demonstration Partnership meetings.
 - > *NSF Program Officer Training.* Recognizing and handling of cases involving potential scientific misconduct are part of training included in NSF Program Management Seminar.
- Merit Review Process.* The NSF merit review process provides opportunities for critical attention to issues of integrity.

NSF’s emphasis on this topic has translated into numerous web-based venues to provide education and training on ethics in science. For example, offerings developed through the STCs include a graduate on-line course (Kansas University), a web-based certification program (University of Washington), and a mandatory ethics seminar with webcast (University of Illinois at Urbana-Champaign). In addition, NSF supports a program called Ethics Education in Science and Engineering to improve ethics education in all of the fields of science and engineering that NSF supports, including in interdisciplinary or inter-institutional contexts. See <http://www.nsf.gov/pubs/2007/nsf07541/nsf07541.htm>

2. HUMAN CAPITAL

Workforce Planning: Progress continues to be made in the development and implementation of an effective workforce planning process, as evidenced by the following examples:

- A committee of senior management from each Directorate and Office designed and implemented an operating workforce planning process in FY 2006.
- A 3-year strategic workforce plan was documented in FY 2006. The draft plan is being updated this year to align with NSF’s Strategic Plan, and will be reviewed and updated annually.
- Each Directorate/Office created staffing plans for FY 2006 and FY 2007 based upon the methodology developed in the workforce planning process. These plans aided NSF’s staffing efforts for the last two years. FY 2008 staffing planning will begin in the fall.
- The Directorate for Computer and Information Science and Engineering (CISE) piloted a workload demand analysis process which will be made available for use throughout the Foundation in FY 2008. This process will aid in anticipating future workload and help determine the appropriate mix of staff within a Directorate/Office.

In addition, in FY 2007, NSF began a comprehensive succession planning process that will identify key succession planning strategies.

NSF’s Non-Permanent Workforce: During 2003, the National Academy of Public Administration studied, among other things, NSF’s use of “non-permanent” employees. That report noted that NSF uses its “rotating” workforce in an appropriate manner. It also noted that the NSF understands the challenges

of managing such a mixed workforce, part permanent-part temporary, and has managed this situation very well so far, and recommended no changes to the management of this situation.

NSF has always appreciated the ability and authority to recruit and hire the most capable scientists and engineers to oversee and manage its frontier science and engineering activities. NSF also understands the challenges that come with this authority, and continuously works to improve the orientation, the training, and the appreciation of associated responsibilities that come with federal employment and excellence in program management. One key to NSF’s success is a continual and transparent exchange between the science community and the agency. NSF’s ability to utilize rotators is essential to carrying out the agency mission.

Administrative Infrastructure: To address the issue of adequate Human Resource Management administrative systems to hire new staff, the following actions were undertaken in FY 2006-2007:

- Significantly expanded contract support to perform operational and processing work in order to focus permanent resources on strategic change and strategic partnerships.
- Created Human Resource service teams with specific customer account representatives to meet frequently with management officials in order to accurately define and meet recruitment needs.
- Established new “service agreement” approach to fill positions whereby the hiring office and HRM agree up front on recruiting steps and expected timeline to complete hiring action.
- Established and announced a number of open continuous positions to assure an ongoing supply of candidates for commonly filled positions.
- Implemented processes to improve the quality of questions used in Quick Hire announcements in order to make clearer distinctions between candidates.
- Established a new pay-setting policy that streamlined the pay calculation process for NSF Excepted Service positions and significantly reduced the number of requests for exceptions.

As a result of these efforts, NSF reduced total time-to-hire for all NSF recruitments by an average of more than 30 percent from 2006 to 2007.

Space Limitations: The problem of inadequate space and space limitations as well as the ability to obtain space for panels and meetings is being addressed in a number of ways:

- NSF management is working closely with Tishman Speyer, the new owners of Stafford Place and Stafford II, to identify new space that may become available.
- NSF is working with GSA to allow various lease arrangements as the new space comes available so that we will have flexibility in obtaining leased office space.
- Since 2006, NSF has moved 61 staff to Stafford II. Currently, office space construction is taking place to build 67 new offices for space that was recently acquired in Stafford II.
- NSF expects more space to come available over the next three years in Stafford II and is planning accordingly based on various space scenarios.
- NSF management determined that much of the problem finding space for panels and meetings stems from staff who reserve rooms and fail to cancel them when not needed. The conference services staff is addressing this problem by contacting meeting coordinators in advance to confirm they will need the rooms. We have found that several meeting rooms are made available each week simply by releasing rooms that will not be used and thus making them available for use by other staff. Although this is somewhat labor intensive, it has been effective in relieving the problem of inadequate numbers of available meeting rooms.

FedTraveler:

- NSF worked closely with an inter-agency group and GSA to outline FedTraveler system problems that were cited as hampering staff members in their attempts to make travel arrangements. A letter

of cure to EDS, the FedTraveler provider, listed all known defects in the system. GSA monitored the resolution of the issues, and determined that EDS satisfactorily met all the conditions in the letter.

- EDS worked with user groups to make the navigation of the FedTraveler system more user-friendly, resulting in many system changes over the past 18 months.
- In July of 2007, NSF worked with EDS to integrate FedTraveler with the NSF finance system. Full integration of the two systems has enhanced the functionality of the travel and reimbursement system. For example, when the final approval of a travel plan is done in the FedTraveler system, the NSF finance system immediately obligates the travel funds, thus ensuring that the ticketing agent at Sato Travel issues the ticket for the traveler.
- A new FedTraveler wizard style interface prototype has been developed by EDS based on user feedback, and is expected to enhance ease of use for staff. The new interface is currently being shown to customer agencies and is expected to be ready for release within 6 to 12 months.

3. BUDGET, COST, AND PERFORMANCE INTEGRATION

Performance Reporting: The Advisory Committee for GPRA Performance Assessment (AC/GPA) recommended in their 2006 Report that program highlights (formerly called “nuggets”) include more specific information on desired activities and outcomes. In response, NSF revised the process by which program officers write and categorize highlights for the AC/GPA’s use. Program officers were asked to explain how the particular highlight addressed one of the strategic outcome goals (Discovery, Learning, or Research Infrastructure) as described in the NSF Strategic Plan for FY 2006-2011. In addition, program officers were asked whether the highlight represented transformative research and if so, why. After reviewing more than 1,100 highlights, AC/GPA members determined that NSF had demonstrated significant achievement for its strategic outcome goals, but recommended in their 2007 Report that “specific criteria for each of the strategic goals” be designated to assist the Committee in its assessment the following year. NSF will implement this recommendation for the Committee’s review of FY 2007 highlights.

Project Reporting: NSF continues to advance its capabilities for the receipt, submission, and monitoring of annual and final project reports through IT enhancements, as well as upgrades to its external and internal policy documents.

Specific achievements:

- In November 2006, NSF implemented its first data-driven, web-based project reporting and notification system for annual and final project reports. Incorporated into FastLane, this system is comprised of a module accessible through NSF’s internal eJacket system and complemented by a plethora of tools explicitly designed to benefit both NSF’s external research community and its internal scientific staff.
- Business rules reflecting NSF policies and appropriate edits supporting these rules were incorporated into NSF’s back office corporate IT systems (i.e., Proposal and Reviewer System, Award System).
- Clarifications to the roles and responsibilities for project reporting by institutional awardees, Principal Investigators/co-Principal Investigators, and NSF Program Officers have been incorporated into recent updates of the “Proposal and Award Policies and Procedures Guide and the Proposal and Award Manual”.
- Implementation of this re-engineering of processes for tracking and notification completes resolution of all outstanding findings identified under the OIG Audit Report of December 13, 2004.

Cost Information: NSF maintains costs of its operations at the highest and lowest levels. NSF monitors costs of its operations at a very detailed level in its Budget Execution Plans. NSF also tracks costs of its operations at the highest levels for our strategic goals and our appropriations. NSF has determined that process oriented cost information would be of limited utility to agency management. The agency instead

relies upon efficiency measures that focus on process and performance, which are more meaningful and useful than measures that focus strictly on cost.

- In conjunction with the PART review and implementation of the Budget and Performance Integration Initiative, NSF has adopted efficiency goals that constantly challenge the staff to develop and implement the most efficient work processes and operations. As an example, the agency is currently undertaking an Administrative Functions pilot to better align and streamline staff functions and responsibilities.
- NSF administrative costs are presented in the agency Budget and tracked via the Statement of Net Cost. Because about 95 percent of NSF’s funding goes directly to programmatic investments, detailed information on administrative costs is of limited utility to NSF program managers. To adopt a system for tracking costs at detailed levels of the organization would in itself undermine the efficiency of NSF’s operations and the cost of such a system would be grossly disproportionate to the benefits.

4. INFORMATION TECHNOLOGY

Enterprise Architecture: NSF’s Enterprise Architecture (EA) is evaluated annually by the Office of Management and Budget (OMB) and periodically by the General Accountability Office (GAO) to assess the completion of EA work products, use of EA to drive improved decision-making, and results achieved from using EA. NSF has taken the following actions in response to the GAO EA report:

- Established an agency policy for EA development, maintenance, and compliance.
- Formally established the CIO Advisory Group (CIOAG) as the group representing the agency that is responsible for directing, overseeing, and approving EA.
- Obtained CIOAG approval of the current version of EA.
- Periodically measured and reported progress against EA plans to the CIOAG.
- Expanded our EA methodology to include steps for EA development.

Also, NSF received high ratings from OMB for the quality of our Enterprise Architecture efforts.

5. THE UNITED STATES ANTARCTIC PROGRAM

Long-Term Planning: NSF was directed by Presidential Memorandum 6646 (February 5, 1982) to fund and manage the U.S. Antarctic Program as a single package. As such, NSF funds forefront scientific research, secures and manages the associated logistics support and infrastructure that makes this research possible, and protects the Antarctic environment as well as the health and safety of Program participants.

OPP tasked an external group of experts to advise on the logistics and infrastructure needed to sustain the high priority research program and to consider modifications that would enable research in new geographical regions or on new subjects. Funding to begin implementing the resulting recommendations was requested in the FY 2007 budget to Congress and work on these efforts continues.

The USAP is part of the agency-wide IT Security Program that encompasses all aspects of information security, including policies, procedures and plans; security assessments; audits and controls; security awareness training; certification and accreditation; intrusion detection and computer incident response team (CIRT); and vulnerability assessment and penetration tests. The Antarctic support contractor recently submitted proposals to implement a disaster recovery program and to replace the software systems currently in use. Management is considering these proposals, as well as their priority relative to other USAP needs.

6. MERIT REVIEW

Broadening Participation: The goal of broadening participation of underrepresented groups in the sciences and engineering has long been a priority at NSF, and is embedded as a core value in the Strategic Plan. Proposals from women and minorities increased by 3.2 percent in FY 2006 as compared to FY 2005; the overall increase in proposal submissions was only 1.6 percent. This suggests that some progress is being made in attracting more applicants from underrepresented groups. However over time, there has been an increased tendency of NSF proposers to not report demographic information. With respect to reviewers, in FY 2006, 25 percent of reviewers reported demographic information, 36 percent of which were members of underrepresented groups. Both of these numbers represent an increase over the previous year. NSF continues to ask proposers and reviewers to volunteer information about their ethnicity, gender, or disability status. Nonetheless, since providing this information is not mandatory, tracking progress in increasing the participation of underrepresented groups continues to be a challenge.

To address this challenge, in FY 2007 NSF has:

- Formed an NSF-wide working group on Broadening Participation, whose charge is to:
1) develop a plan to increase participation in NSF programs from underrepresented groups, which includes defining existing baseline data; and 2) develop a plan to broaden the pool of reviewers for NSF proposals. The working group presented a draft report with specific recommendations to NSF Senior Management in mid-September, 2007.
- Begun conceptual analysis of an integrated and dynamic Reviewer Management System.

PATENTS AND INVENTIONS RESULTING FROM NSF SUPPORT

The following information about inventions is being reported in compliance with Section 3(f) of the National Science Foundation Act of 1950, as amended [42 U.S.C. 1862(f)]. There were 1,455 NSF invention disclosures reported to the Foundation either directly or through NIH's iEdison database during FY 2007. Rights to these inventions were allocated in accordance with Chapter 18 of Title 35 of the United States Code, commonly called the "Bayh-Dole Act."

ACRONYMS

AC	Advisory Committee	GC	General Counsel
AC/GPA	Advisory Committee for GPRA Performance Assessment	GMLoB	Grants Management Line of Business
AFR	Annual Financial Report	GPA	GPRA Performance Assessment
AMBAP	Award Monitoring and Business Assistance Program	GPRA	Government Performance and Results Act
APIC	Accountability and Performance Integration Council	GSA	Government Services Administration
BFA	Office of Budget, Finance, and Award Management	HRM	Human Resource Management
CFO	Chief Financial Officer	ICWG	Ice Core Working Group
CIO	Chief Information Officer	ILAB	Independent Laboratory Access for Blind and Visually Impaired Students
CIOAG	Chief Information Officer Advisory Group	IPA	Intergovernmental Personnel Act
CIRT	Computer Incident Response Team	IPIA	Improper Payments Information Act of 2002
CISE	Directorate for Computer and Information Science and Engineering	IT	Information Technology
CMIA	Cash Management Improvement Act	LFP	Large Facility Projects Management & Oversight Office
COSEPUP	Committee on Science, Engineering, and Public Policy	MTS	Federal Measurement Tracking System
COV	Committee of Visitors	NITRD	Networking and Information Technology Research and Development
DACS	Division of Acquisition and Cooperative Support	NSB	National Science Board
DNA	Deoxyribonucleic Acid	NSF	National Science Foundation
EDS	Electronic Data Systems	OIG	Office of Inspector General
EPA	Environmental Protection Agency	OMB	Office of Management and Budget
ERC	Engineering Research Center	OPM	United States Office of Personnel Management
FAS	Financial Accounting System	OPP	Office of Polar Programs
FATC	Financial & Administrative Terms and Conditions	PAR	Performance and Accountability Report
FCTR	Federal Cash Transaction Report	PARS	Proposal and Reviewer System
FFMIA	Federal Financial Management Improvement Act of 1996	PART	Program Assessment Rating Tool
FFR	Federal Financial Report	PI	Principal Investigator
FMFIA	Federal Managers' Financial Integrity Act of 1982	PMA	President's Management Agenda
FMLOB	Financial Management Line of Business	Q3	Third Quarter
FMSM	Financial Management Service Metrics	SSP	Shared Service Provider
FTE	Full-time Equivalency	STC	Science and Technology Center
FY	Fiscal Year	USAID	U.S. Agency for International Development
GAAP	Generally Accepted Accounting Principles	USAP	U.S. Antarctic Program
GAO	Government Accountability Office	USSGL	U.S. Government Standard General Ledger
		UV	ultraviolet
		VA	Veterans Affairs

