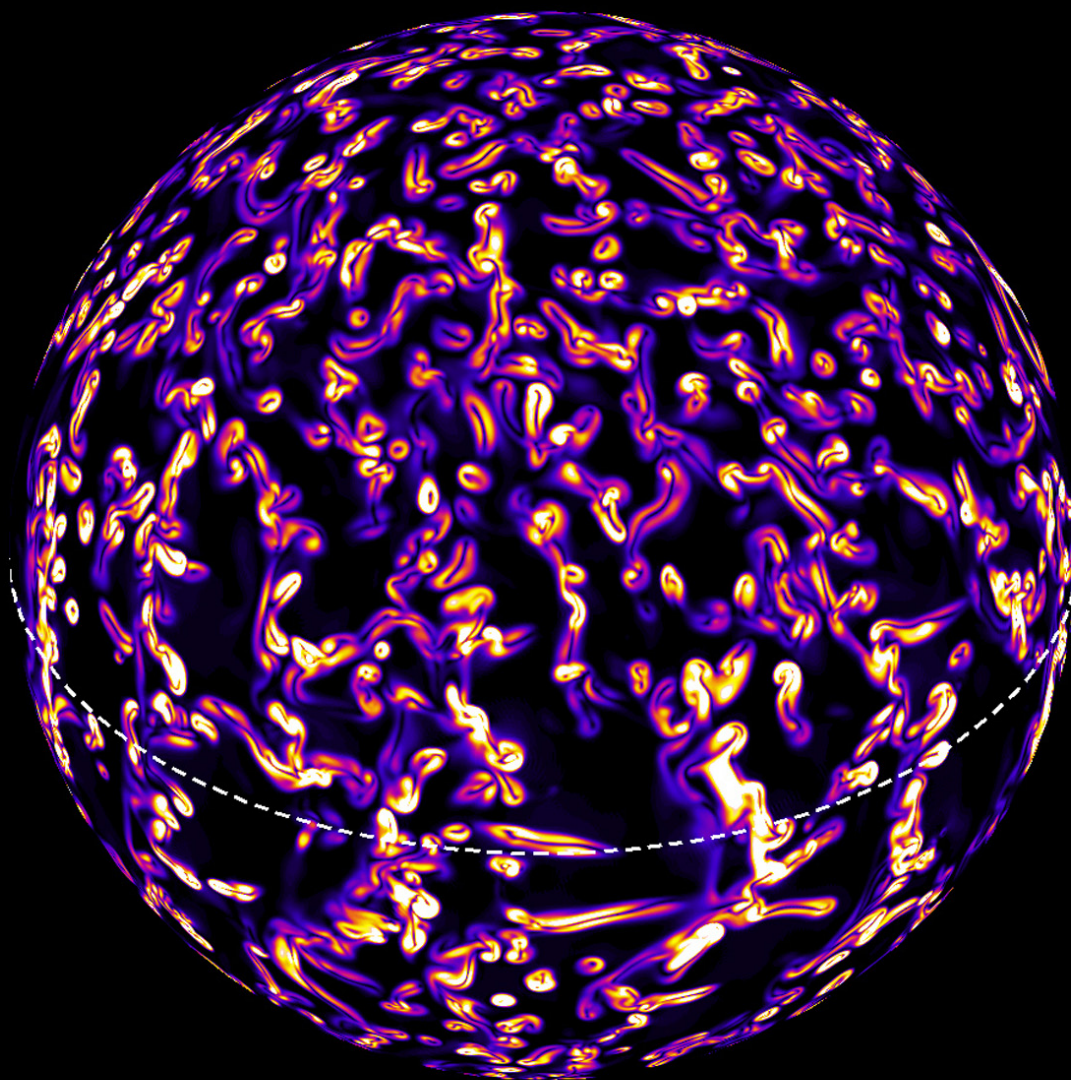


U N I T E D S T A T E S

National Science Foundation



Investing in America's Future

FY 2009 **Agency Financial Report**

THE NSF STATUTORY MISSION

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense

– From the National Science Foundation Act of 1950 (P.L. 81–507)



THE NSF VISION

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

– From the National Science Foundation Strategic Plan FY 2006–2011

About the cover: Convection patterns in the interior of the Sun. This still image is from computer models that simulate the flow of plasma in the deep interior of the Sun in unprecedented detail. This model was developed by researchers at the National Center for Atmospheric Research (NCAR) and other institutions. NCAR is supported by the National Science Foundation and other federal agencies to provide facilities and support for a wide range of studies in the atmospheric and related sciences. NSF supports a range of activities that expand our understanding of the Sun and its role in the Earth's climate. For more information visit: www.nsf.gov/news/mmg/mmg_disp.cfm?med_id=65466&from=img and www.ncar.ucar.edu.

Image courtesy of ©University Corporation for Atmospheric Research; illustration by Mark Miesch.



ABOUT THIS REPORT

For FY 2009, in lieu of a *Performance and Accountability Report*, the National Science Foundation (NSF) is producing three alternative reports which provide financial management and program performance information to demonstrate the agency’s accountability to our stakeholders and the American public. Each report will be available on NSF’s website at www.nsf.gov/about/performance as they are completed.

- This report, the **Agency Financial Report (AFR)**, focuses on NSF’s financial management and the results of the agency’s annual financial audit. It includes management’s assurance statement, NSF’s improper payments report, and the Office of Inspector General’s memorandum on the agency’s management challenges as well as a response from management. This report also includes an agency overview.
- The **Annual Performance Report (APR)** will discuss the results of NSF’s FY 2009 Government Performance Results Act (GPRA) performance goals and metrics. The APR will be included in NSF’s FY 2011 Budget Request which will be transmitted to Congress on February 1, 2010. NSF’s performance website includes additional, more detailed performance assessment information.
- NSF’s **Performance Highlights** report summarizes key information from the AFR and APR. It will be available on February 15, 2010.

NSF by the Numbers	
\$6.5 billion	<i>FY 2009 Appropriations (does not include funding from the American Recovery and Reinvestment Act of 2009 and special and donated funds)</i>
\$3.0 billion	<i>Funding from the American Recovery and Reinvestment Act of 2009</i>
2,000	<i>Colleges, universities, and other institutions receiving NSF funding in FY 2009</i>
45,000	<i>Proposals evaluated in FY 2009 through a competitive merit review process</i>
14,600	<i>Competitive awards funded in FY 2009</i>
239,000	<i>Proposal reviews conducted in FY 2009</i>
241,000	<i>People NSF supports directly (researchers, postdoctoral fellows, trainees, teachers, and students)</i>
42,000	<i>Students supported by NSF Graduate Research Fellowships since 1952</i>

NATIONAL SCIENCE FOUNDATION

FY 2009 Agency Financial Report

www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf10001

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*For more information about the National Science Foundation, visit NSF’s website at **www.nsf.gov**.*

For copies of this report please send your request to Accountability@nsf.gov. We welcome suggestions on how to make this report more informative. Please provide your comments to Shirley Watt (smwatt@nsf.gov).



A MESSAGE FROM THE DIRECTOR

I am pleased to share with you the *Agency Financial Report (AFR)* of the National Science Foundation (NSF) for Fiscal Year (FY) 2009. NSF is the only federal agency dedicated to the support of research and education across all fields of science and engineering and all levels of education. NSF funds the best ideas and most promising people, searching out the frontiers of science and engineering to foster high-risk, potentially transformative research that will generate important discoveries and new technology.

The enactment in February 2009 of the American Recovery and Reinvestment Act made FY 2009 an extraordinary year for NSF. The Recovery Act included \$3.0 billion for the Foundation, boosting total FY 2009 appropriations to \$9.49 billion. This was a nearly 50 percent increase from the prior year. With these resources, NSF reviewed 45,228 proposals and funded a record 14,641 new awards. The resulting 32 percent funding rate was the highest since FY 2000. Nearly 239,000 proposal reviews were conducted, involving almost 46,000 external reviewers.

Underlying NSF's programmatic activities is NSF's commitment to sound management practices and rigorous financial oversight.

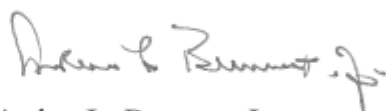
- NSF received its twelfth consecutive unqualified "clean" opinion from an independent audit of its financial statements. The audit report identified no material weaknesses while including one significant deficiency related to the monitoring of cost reimbursement contracts.
- NSF is able to provide reasonable assurance that the agency is in substantial compliance with the Federal Managers' Financial Integrity Act of 1982, and that internal control over financial reporting is operating effectively to produce reliable financial reporting. No material weaknesses were found in the design or operation of the internal controls.
- NSF achieved all three of its mission-related strategic outcome goals of *Discovery*, *Learning*, and *Research Infrastructure*, which together account for 95 percent of the Foundation's investment portfolio. Moreover, the assessment process was validated by an independent external management consultant. NSF's fourth strategic goal, *Stewardship*, focuses on improving the agency's management practices. Its results will be reported in the *Annual Performance Report*, which will be available in February 2010.

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

For FY 2009, in lieu of a Performance and Accountability Report, NSF is preparing three alternative reports. In addition to this *Agency Financial Report*, on February 1, 2010, NSF will transmit its FY 2011 Budget Request to Congress which will include NSF's FY 2009 *Annual Performance Report*. On February 15, 2010, NSF will issue a *Performance Highlights* report which will summarize the agency's key performance and financial information. All three reports will be available on NSF's website at www.nsf.gov/about/performance.

Meanwhile, I encourage you to visit NSF's website for more information about NSF's Recovery Act projects at www.nsf.gov/recovery. To see the most recent NSF-supported research results, visit www.nsf.gov/discoveries. Indeed, they are a testament to America's ingenuity and innovative spirit.

Thank you for your interest in NSF.



Arden L. Bement, Jr.
Director

November 12, 2009

CHAPTER I: MANAGEMENT’S DISCUSSION AND ANALYSIS

AGENCY OVERVIEW

Mission and Vision

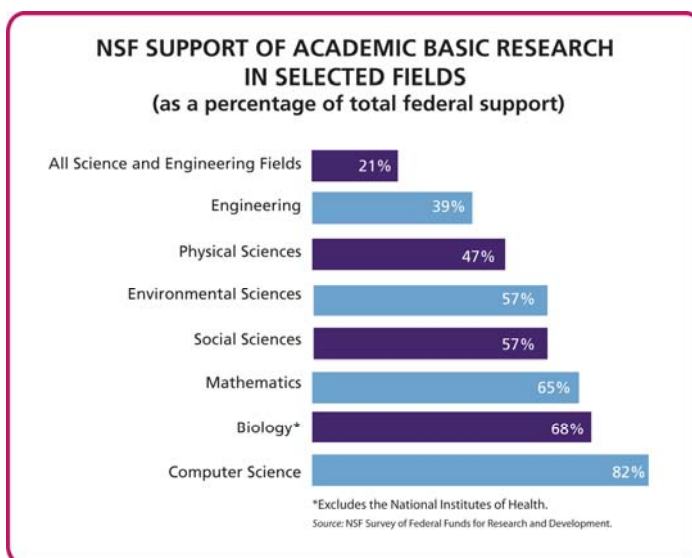
The National Science Foundation (NSF) was established in 1950 “to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.”¹ NSF funds the best ideas and most promising people—searching the frontiers of science and engineering to support cutting-edge research and the most promising approaches in education and learning. The Foundation seeks to support high-risk, potentially transformative research that will generate important discoveries, new technologies, and a dynamic workforce. To enable researchers and students to work at the forefront of research, NSF also funds advanced instrumentation and facilities. This catalytic role is reflected in the vision statement from NSF’s Strategic Plan for FY 2006-2011: *Advancing discovery, innovation, and education beyond the frontiers of current knowledge and empowering future generations in science and engineering.*²

Investing in the Future

NSF is the only federal agency dedicated to the support of basic research across all fields of science and engineering and all levels of science and engineering education.

- NSF’s annual budget represents 21 percent of the total federal budget for basic research conducted at America’s colleges and universities.³
- In many fields, including computer science, mathematics, nonmedical biology, environmental sciences, and the social sciences, NSF is the principal source of federal academic support (Figure 1).
- Nearly 90 percent of NSF funding is allocated through a merit-based, competitive process. Each year, 46,000 members of the science and engineering community participate in the merit review process as panelists and proposal reviewers.⁴

Figure 1.



How NSF’s Investments in Basic Research and Education Benefit Society

Investments in science and technology foster economic growth, create high tech, high wage jobs that allow U.S. workers to lead the global economy, improve the quality of life for all Americans, and

¹ The National Science Foundation Act of 1950 (Public Law 81-507).

² NSF’s Strategic Plan for FY 2006-2011 is available at www.nsf.gov/about/performance/strategic_plan.jsp.

³ Based on FY 2007 data from the NSF’s Division of Science Resources Statistics, Survey of Federal Funds for Research and Development.

⁴ For more information about NSF’s merit review process, see *Report to National Science Board on the NSF’s Merit Review Process, FY 2008* at www.nsf.gov/nsb/publications/landing/nsb0943.jsp

strengthen our national security.⁵ NSF's investments produce both tangible and intangible benefits that keep the United States at the forefront of science and engineering (*Figure 2*).

New Knowledge: NSF's support for basic research is at the core of its mission of advancing the frontier of science and engineering. The quality of these investments is reflected in the fact that, since its inception in 1950, NSF has supported 187 Nobel laureates for their seminal work.⁶ This broad and long-standing commitment sustains the nation's ability to generate and harness advances in science and technology.

World Class Facilities: State-of-the-art facilities provide unique capabilities at the cutting edge of science and engineering that expand the boundaries of technology and offer significant new research opportunities, often in totally new directions. NSF's polar research facilities, for example, provide access to the Earth's most extreme environments and advance discovery in fields as diverse as climate change, astronomy, geology, and biology.

New Tools, Methods, and Processes: The basic research supported by NSF is a proving ground for tools, methods, and processes that drive discovery and technology development. For example, fundamental work supported by NSF to create libraries of chemical compounds has since become a staple for drug design in the pharmaceutical industry.⁷

Insight into National and Global Challenges: The fundamental knowledge generated by NSF's investments has time and again proved vital in addressing national and global challenges. NSF-supported work on ocean/atmosphere dynamics, for example, has led to more accurate and useful predictions of the weather cycles known as El Niño and La Niña.⁸

<i>Figure 2.</i> Examples of NSF Investments	
New Knowledge	<ul style="list-style-type: none"> • Quantum computing • Nanotechnology • Computer visualization techniques • Metagenomics • Science of science and innovation policy • Plant genome mapping
World Class Facilities	<ul style="list-style-type: none"> • National Center for Atmospheric Research • U.S. South Pole Station • Alaska Region Research Vessel
New Tools, Methods, and Processes	<ul style="list-style-type: none"> • The TeraGrid allows researchers from all fields of science and engineering to apply high-performance computing power to their studies. • The new detailed satellite map of Antarctica, a fundamental tool for scientists in every discipline from biology to geology to glaciology, helps to answer scientific questions and plan field work in the vast unexplored tracts of Antarctica.
Insight into National and Global Challenges	<ul style="list-style-type: none"> • Green gasoline • Climate change • Environmental protection • Cybersecurity • Sustainable energy • Homeland security
A Highly Trained Workforce	<p>NSF has supported:</p> <ul style="list-style-type: none"> • 42,000 graduate research fellows since 1952 • 5,200 Ph.D. students have received integrative graduate education and research training since 1998 • 344,000 undergraduate and secondary-school students have received advanced technological education since 1994
Resources for Teachers and Students	<ul style="list-style-type: none"> • National Science Digital Library, an online digital library of resources for K–12 educators • Fun Works, a website for young people to explore career opportunities in science, technology, engineering, and mathematics • CYBERCHASE, an Emmy award-winning, groundbreaking multi-platform program for children in grades 3–on PBS KIDS GO! for grades 3–5 • MSPnet, an electronic learning community for the Math and Science Partnership Program

⁵ See *A New Era of Responsibility - Renewing America's Promise*, at www.whitehouse.gov/omb/assets/fy2010_new_era/a_new_era_of_responsibility2.pdf, page 105.

⁶ See www.nsf.gov/news/news_summ.jsp?cntn_id=100683 for a list of NSF-funded Nobel laureates.

⁷ See *America's Investment in the Future* and *Nifty 50* at www.nsf.gov/about/history/history-publications.jsp.

⁸ See footnote 7.

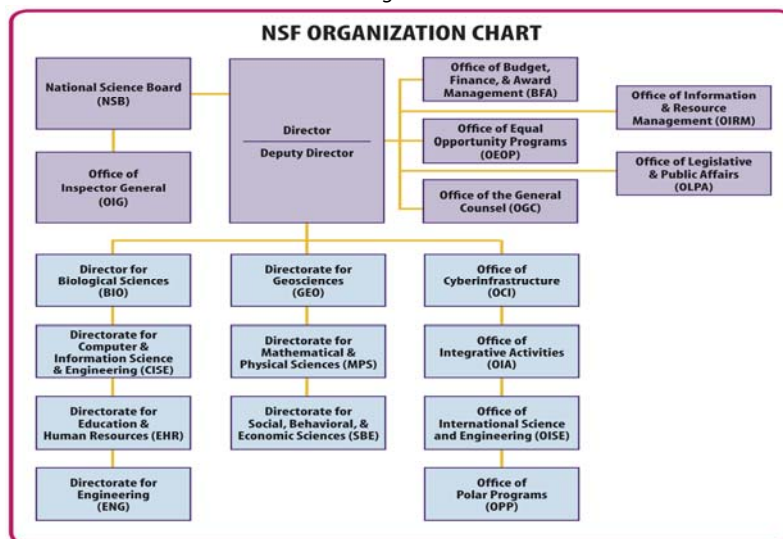
A Highly Trained Workforce: By supporting science, technology, engineering, and mathematics (STEM) education at all levels, NSF is working to build a highly trained future workforce that will help the United States maintain its world-class status in science and engineering. NSF directly supports the advanced education and research of over 60,000 graduate students and postdoctoral associates in science and engineering.

Resources for Teachers and Students: NSF supports approaches to teaching science, mathematics, and engineering. As an example, the NSF-supported Math and Science Partnership (MSP) Knowledge Management and Dissemination website (<http://mspkm.net>) integrates findings from the MSP program into the larger knowledge base. The MSP Knowledge Management and Dissemination Project has primary responsibility for synthesizing findings in the K–12 arena in several areas, articulating the contribution of the MSP program to the knowledge base and identifying gaps, promising practices, and strategies for further investigation. Through this website, MSPs and the field at large can benefit from MSPs' research and development efforts.

Organizational Structure

NSF is an independent federal agency headed by a director (www.nsf.gov/od) appointed by the President and confirmed by the U.S. Senate. A 24-member National Science Board (NSB) meets five times a year to establish the overall policies of the Foundation (www.nsf.gov/nsb). NSB members—prominent contributors to the science and engineering research and education community—are also appointed by the President with the consent of the Senate. The NSF director is a member *ex officio* of the Board. Both the director and NSB members serve 6-year terms. The NSF workforce includes nearly 1,400 permanent staff.⁹ NSF also regularly recruits visiting scientists, engineers, and educators as rotators who work at NSF for up to four years. The blend of rotators who infuse new talent and expertise into the agency and permanent staff is integral to NSF's mission of supporting the entire spectrum of science and engineering research and education at the frontier.¹⁰ As shown in *Figure 3*, NSF's organizational structure aligns with the major fields of science and engineering (www.nsf.gov/staff/orgchart.jsp). In addition to the agency's headquarters located in Arlington, Virginia, NSF maintains offices in Paris, Tokyo, and Beijing to facilitate its international activities and an office in Christchurch, New Zealand, to support the U.S. Antarctic Program.

Figure 3.



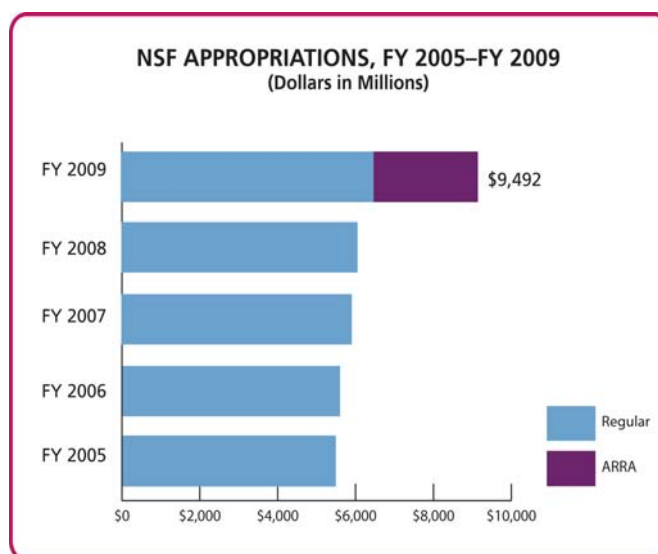
⁹ Full-time equivalents.

¹⁰ As of September 2009, temporary appointments included 164 under the Intergovernmental Personnel Act.

American Recovery and Reinvestment Act of 2009

NSF received \$3.0 billion under the American Recovery and Reinvestment Act of 2009 (ARRA or Recovery Act). The legislation was enacted in February 2009 to stimulate and stabilize the economy. The Recovery Act included long-term investments intended “to increase economic efficiency by spurring technological advances in science and health,”¹¹ to generate new discoveries and breakthroughs. During the signing ceremony on February 17, 2009, President Obama noted, “I hope this investment will ignite our imagination once more, spurring new discoveries and breakthroughs in science, in medicine, in energy, to make our economy stronger and our nation more secure and our planet safer for our children.”¹²

Figure 4.



Note: Appropriations do not include special and donated funds.

The \$3.0 billion provided through the Recovery Act was in addition to NSF’s FY 2009 appropriation of \$6.5 billion (*Figure 4*). In keeping with the Administration’s goals, NSF’s Recovery Act spending plan:

- Creates and sustains research jobs through new awards, graduate research fellows, and early-career researchers.
- Encourages high-risk transformative research that has the potential to drive the nation’s future economic growth.
- Meets facilities and infrastructure needs, including deferred maintenance.
- Strengthens the nation’s overall cyberinfrastructure and enhances institutional broadband access connectivity.

As shown in *Figure 5*, two-thirds of NSF’s Recovery Act funds (\$2.0 billion) were allocated for core research, facilities, and infrastructure investments. The Recovery Act also specified funding levels for

¹¹ The American Recovery and Reinvestment Act of 2009 is available at www.gpo.gov/fdsys/pkg/PLAW-111publ5/content-detail.html.

¹² President Obama’s remarks are available at www.whitehouse.gov/the_press_office/Remarks-by-the-President-and-Vice-President-at-Signing-of-the-American-Recovery-an/.

certain activities: the Major Research Instrumentation program, \$300 million; the Academic Research Infrastructure (ARI) program, \$200 million; and three programs in the Directorate for Education and Human Resources—Noyce Scholarships, Math and Science Partnerships, and a new Science Masters' Program—received a total of \$100 million. A total of \$400 million was provided for the Major Research Equipment and Facilities Construction account, which has funded three projects: the Alaska Region Research Vessel, the Advanced Technology Solar Telescope, and the Ocean Observatories Initiative.

Figure 5.
NSF Spending Plan for the American Recovery and Reinvestment Act of 2009
(dollars in millions)

Program/Activity	Funds Received	Funds Obligated <i>(as of 9/30/09)</i>	Number of Awards <i>(as of 9/30/09)</i>
Research & Related Activities (R&RA) <ul style="list-style-type: none"> ▪ Core Research, Facilities, and Infrastructure Investments (\$2,000 million) ▪ Major Research Instrumentation (\$300 million) ▪ Academic Research Infrastructure (\$200 million) 	\$2,500	\$2,063 (83%)	4,599
Education & Human Resources (EHR) <ul style="list-style-type: none"> ▪ Robert Noyce Scholarship Program (\$60 million) ▪ Math and Science Partnership Program (\$25 million) ▪ Science Masters' Program (\$15 million) 	\$100	\$85 (85%)	76
Major Research Equipment and Facilities Construction Program <ul style="list-style-type: none"> ▪ Alaska Region Research Vessel (\$148 million) ▪ Advanced Technology Solar Telescope (\$146 million) ▪ Ocean Observatories Initiative (\$106 million) 	\$400	\$254(64%)	2
Office of Inspector General	\$2	\$0.02 (<1%)	N/A
TOTAL	\$3,002	\$2,402 (80%)	4,677

In FY 2009, NSF obligated \$2.4 billion (80 percent) of its total ARRA funding, supporting 4,677 awards. ARRA enabled the funding of more than 300 proposals that had been declined earlier in the year due to budgetary constraints even though they were rated very good to excellent. *Figure 6* shows the goals and results of the Recovery Act Research and Related Activities (R&RA) program: 4,599 awards supporting 6,762 investigators in all 50 states and Puerto Rico. More than one-third (2,352) were new investigators or co-investigators. Funding new, young investigators is critical for developing our science and technology workforce and is an important goal of NSF's Recovery Act program. For more information about NSF's ARRA program activities see www.nsf.gov/recovery/ and www.Recovery.gov.

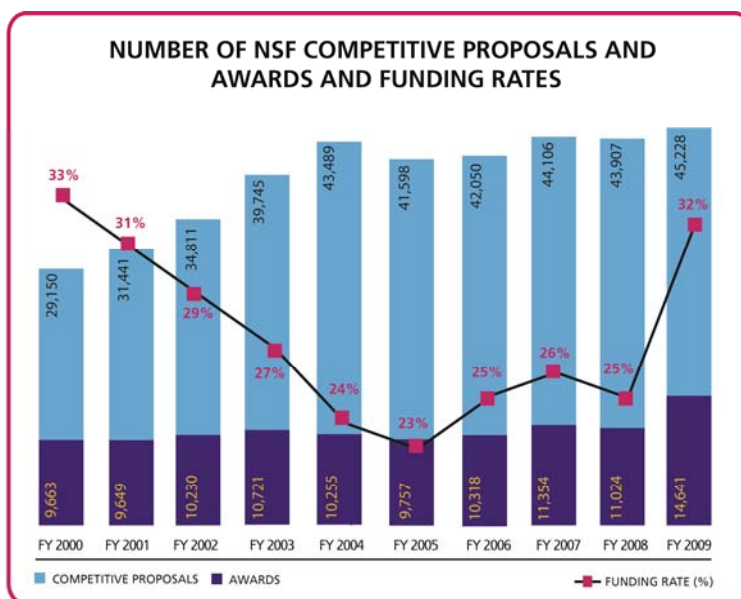
Figure 6.
NSF FY 2009 Recovery Act Performance Goals and Results for Research and Related Activities

Goals	Target	Achieved <i>(as of 9/30/09)</i>
Number of competitive R&RA awards	4,000	4,599
Number of competitive R&RA awards for Major Research Instrumentation and Academic Research Infrastructure	500	TBD in FY 2010
Number of investigators supported on competitive R&RA awards	6,400	6,762
Number of new investigators or co-investigators on competitive R&RA awards	2,400	2,352
Notes: TBD: To be determined. Performance targets and results for the ARRA Education and Human Resources program and the Major Research Equipment and Facilities Construction Program will be reported in the FY 2009 Annual Performance Report, which will be included in NSF's FY 2011 Budget Request to Congress.		

FY 2009 Highlights

- NSF evaluated 45,228 proposals and made 14,641 new awards, of which 4,677 were funded by the Recovery Act (*Figure 7*).
- The Recovery Act boosted NSF's FY 2009 funding rate to 32 percent, the highest since FY 2000.
- Nearly 239,000 proposal reviews were conducted, involving almost 46,000 external reviewers.
- NSF awards were made to 1,967 colleges, universities, and other public and private institutions in 50 states and Puerto Rico.
- FY 2009 awards directly involved an estimated 241,000 people, including researchers, teachers, and students from kindergarten through graduate school.

Figure 7.

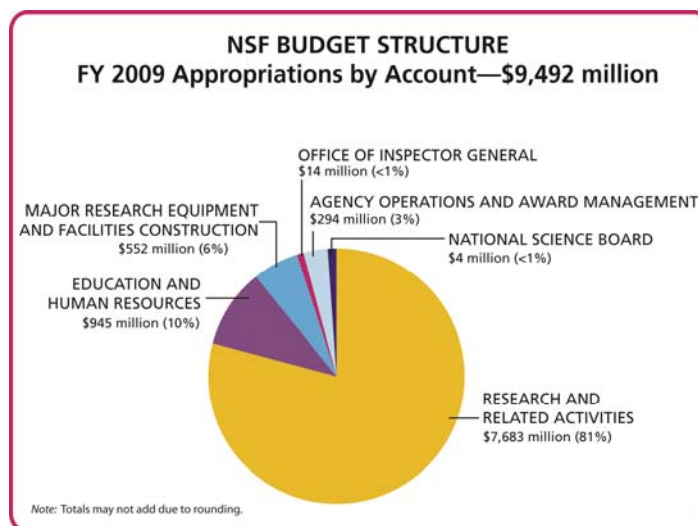


Investment Portfolio

NSF is funded primarily through six congressional appropriations (*Figure 8*).

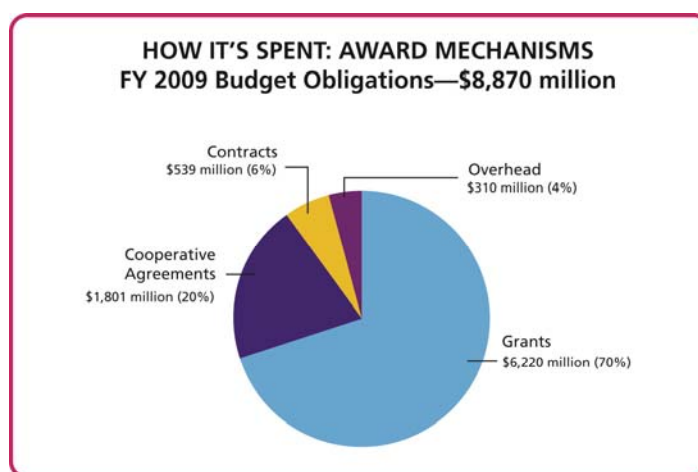
- NSF's largest appropriation is the Research and Related Activities Appropriation which accounted for 81 percent of the agency's FY 2009 funding. This account supports basic research and education activities at the frontiers of science and engineering including high-risk and transformative research.
- The Education and Human Resources appropriation supports activities that ensure a diverse, competitive, and globally engaged U.S. science, technology, engineering, and mathematics workforce and a scientifically literate citizenry.
- The Major Research Equipment and Facilities Construction appropriation supports the construction of unique national research platforms and major research equipment that enable cutting-edge research.
- The Agency Operations and Award Management appropriation supports NSF's administrative and management activities.
- Funding for the operation of the Office of Inspector General and for the National Science Board is each provided in separate appropriations.

Figure 8.



Note: Appropriations do not include special and donated funds.

Figure 9.

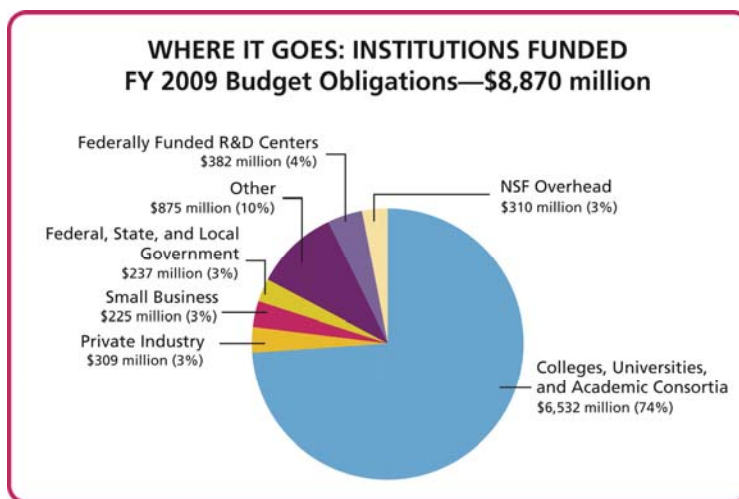


Ninety percent of NSF's FY 2009 projects were funded by grants or cooperative agreements (*Figure 9*).¹³ Grants can be funded either as standard awards in which funding for the full duration of the project is provided in a single fiscal year, or as continuing awards, in which funding for a multi-year project is provided in increments. Cooperative agreements are used when the project requires substantial agency involvement during the project performance period (e.g., research centers, multi-use facilities, etc.)

¹³ In Figure 9, FY 2009 obligations include regular (\$6.5 billion) and Recovery Act funding (\$2.4 billion). Total base and Recovery Act obligations of \$8.9 billion plus Trust Funds (\$56.8 million) and H1-B Nonimmigrant Petitioner Receipts (\$89.1 million) equal Direct Obligations Incurred as shown on the Statement of Budgetary Resources (\$9.0 billion).

Contracts are used to acquire projects, services, and studies (e.g., program evaluations) required primarily for NSF or other government use.

Figure 10.



Most NSF awards are to academic institutions (Figure 10). Other recipients include nonprofit organizations such as other federal agencies, state and local governments, and international organizations. Awards are also provided to Federally Funded R&D Centers (FFRDCs). For-profit business recipients include private and small businesses.

Meeting Future Opportunities and Challenges

NSF continually strives to be a dynamic and agile organization that employs a range of programmatic and organizational mechanisms and strategies to fulfill its mission and goals. In FY 2010, NSF will focus efforts on developing a new strategic plan, to cover the period from FY 2010 through FY 2015. Associated with this will be efforts to improve performance assessment at NSF. The Advisory Committee for Government Performance Results Act (GPRA) Performance Assessment, for example, recommended that NSF “consider an assessment framework that uses multiple measures and methods, applied over various time scales...”

These and other management issues remain high priorities that are important to the agency’s operational efficiency and effectiveness. The Office of Inspector General’s (OIG’s) statement of management challenges for FY 2009 covered five broad areas: Award and contract administration; human capital; budget, cost and performance integration; the U.S. Antarctic Program; and merit review. Many are fundamental issues that the agency is addressing on a continuing basis.

Figure 11 summarizes several key management challenges and some of the significant agency actions taken in the past year and anticipated actions to be taken in the near term. Appendix 3A provides the OIG’s statement of management challenges for FY 2010 and Appendix 3B contains the Director’s response, which includes a report of the significant actions taken in the past year by management with respect to each of the OIG’s FY 2009 management challenges.

Figure 11.

Office of Inspector General (OIG) FY 2009 Management Challenges¹⁴

OIG's FY 2009 Management Challenge	Significant Actions Taken by NSF in FY 2009	NSF's Anticipated Next Steps
<p>Post-Award Administration Policies</p>	<p>Assessed business performance of 30% of awardees managing 94% of NSF funds through advanced monitoring (30 site visits, 159 desk reviews) under the Award Monitoring and Business Assistance Program.</p> <p>Issued an updated <i>Proposal & Award Policies & Policies Guide</i> that incorporated revisions related to America COMPETES Act (ACA); updated <i>NSF Proposal and Award Manual</i>.</p> <p>Initiated planning for public-facing project report on outcomes of NSF-funded awards (per ACA), highlighting project results and other award products.</p> <p>Developed Division Director concur functionality in e-Jacket.</p> <p>Provided support to NSB report on cost sharing policies.</p> <p>Implemented information technology system hard edit to prohibit award close-out without grantee final cost share certification and Program Officer acceptance.</p> <p>Held effective practices forum meetings for NSF Centers programs to share management and other practices.</p>	<p>Work with the Recovery Act Steering Committee on updating Recovery Act policies and procedures document.</p> <p>Update proposal and award manuals to reflect changes in policies and procedures.</p> <p>Modify NSF Grant Conditions to require Principal Investigators (PIs) to submit a new type of final report on project outcomes.</p> <p>Modify <i>Research.gov</i> website to include the capability for PIs to report on end-of-project outcomes.</p> <p>Implement beta Division Director concur functionality in e-Jacket.</p> <p>Create automatic notification to awardees for final cost share certification.</p>
<p>Workforce Planning</p>	<p>Completed staffing plans for FYs 2009–2010.</p> <p>Created administrative functions management (AFM) position summary and competency profiles; created learning maps within the Academy Learn system for all five AFM jobs.</p> <p>Evaluated existing workforce planning systems and identified systems requirements.</p> <p>Updated workload analysis model forecast for FYs 2009–2011.</p> <p>Piloted a new executive transition website.</p> <p>Piloted a knowledge management portal.</p> <p>Develop content for a comprehensive program management curriculum.</p> <p>Developed a list of e-business courses for NSF Program Officers on review analysis and finding reviewers.</p> <p>Achieved a 4.7%–10.5% improvement in workforce planning, performance management, recruitment of permanent, executive and rotator staff, and organizational development activities as indicated by the annual customer satisfaction survey.</p>	<p>Further efforts in the areas of staffing, management succession, and the use of rotators, which will be guided by the results of an upcoming comprehensive analysis these human capital issues.</p> <p>Develop content for the <i>New Executive Transition</i> website.</p> <p>Continue vetting e-business courses.</p> <p>Explore other alternatives for knowledge management retention for departing and replacing executives based on feedback from pilot.</p> <p>Roll out new briefing for all new employees about working at NSF and for federal government.</p>
<p>Broadening Participation in the Merit Review System</p>	<p>Finalized and published the Framework for Action, incorporating Advisory Committee comments.</p> <p>Established internal and external web pages for Broadening Participation.</p> <p>Published and updated Broadening Participation portfolio.</p> <p>Held workshop for tribal colleges and universities and other grants workshops for diverse institutions.</p> <p>Refined plan for Reviewer Services, integrating with other <i>Research.gov</i> services to broadening participation.</p> <p>Began implicit bias training module for NSF Program Officers.</p>	<p>Pilot the Reviewer Services module.</p> <p>Pilot implicit bias training and make it available for all Program Officers.</p> <p>Distribute OMB-approved reviewer questionnaire and measure merit review participation results.</p>

¹⁴ For a discussion of all the OIG FY 2009 management challenges and a more detailed list of the significant actions taken by the agency, see Appendixes 3A and 3B.

PERFORMANCE HIGHLIGHTS

NSF's Strategic Plan for FY 2006–2011 (www.nsf.gov/pubs/2006/nsf0648/nsf0648.jsp) established four long-term strategic outcome goals for the agency's activities and performance: *Discovery*, *Learning*, *Research Infrastructure*, and *Stewardship*. The first three goals focus on NSF's long-term investments in science and engineering research and education. The fourth goal—*Stewardship*—is internally focused and emphasizes improving the effectiveness and efficiency of the agency's management practices. NSF's progress toward achieving its annual performance goals is determined using a combination of internal and external assessments including qualitative reviews and quantitative metrics.

In FY 2009, NSF updated its performance assessment framework, which will be refined and finalized as NSF revises its strategic plan in FY 2010. NSF's FY 2009 Annual Performance Report (APR) will include a detailed discussion of the new performance assessment framework and the results of each of the agency's FY 2009 GPRA performance goals; its assessment methodology; metrics; relevant external reviews; and additional performance information, such the verification and validation of NSF's performance data. NSF's APR will be included in the agency's FY 2011 Budget Request to Congress, which will be transmitted on February 1, 2010.

FY 2009 Results

- Figure 12 shows NSF's FY 2009 budget by strategic goal. More than half of NSF's budget supported the *Discovery* goal—to foster research that will expand the frontier of knowledge. The *Discovery*, *Learning*, and *Research Infrastructure* goals together accounted for 95 percent of NSF's FY 2009 investment portfolio.¹⁵
- NSF's *Stewardship* goal accounted for 5 percent of NSF's budget in FY 2009. The *Stewardship* goal addresses issues such as the merit review process, improving customer service, and broadening participation.
- Since 2005, NSF has achieved all its annual strategic outcome goals and an average of 74 percent of its other annual GPRA goals (Figure 13).

Figure 12.

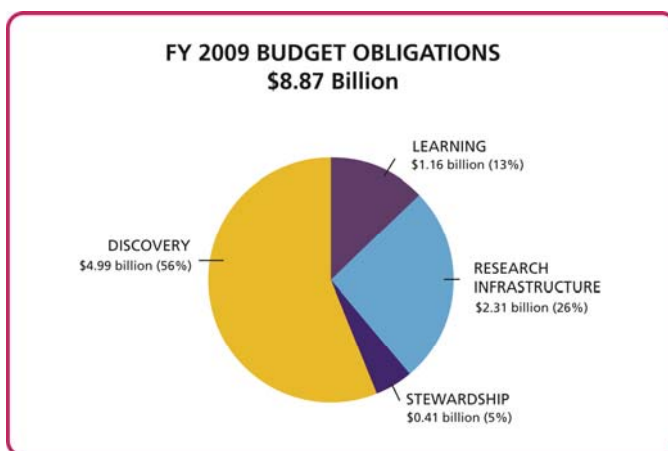


Figure 13.

NSF FY 2005-2009 Performance Scorecard
(number and percent of goals achieved)

Goals	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Strategic Outcome Goals	4 of 4 (100%)	4 of 4 (100%)	4 of 4 (100%)	4 of 4 (100%)	3 of 3 (100%)
Other Annual Goals	14 of 17 (82%)	15 of 22 (68%)	14 of 20 (70%)	17 of 23 (74%)	TBD

¹⁵ A notable facet of many NSF investments is that they serve multiple purposes. For example, research projects in programs categorized under the *Discovery* goal often provide funds that involve graduate students, thus they contribute to the *Learning* outcome. Such indirect investments are important to the attainment of NSF's mission.

Strategic Outcome Goal 1: 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 by:

- Promoting transformational, multidisciplinary research.
- Investigating the human and social dimensions of new knowledge and technology.
- Furthering U.S. economic competitiveness through basic research that can lead to new, valuable, and marketable technologies.
- Fostering research that improves our ability for sustainable living on Earth.
- Advancing fundamental research in computational science and engineering, and in fundamental, applied, and interdisciplinary mathematics and statistics.

FY 2009 Assessment

- **Advisory Committee Review:** To evaluate research and education outcomes under *Discovery*, NSF convened an external expert group, the Advisory Committee for GPRA Performance Assessment (AC/GPA), to determine whether the agency has demonstrated significant achievement under this goal. The AC/GPA determined that NSF met this standard for *Discovery* in FY 2009.
- **Qualitative Performance Information:** Fifteen completed external evaluations have been conducted on NSF programs in FY 2009. Seven of these were directly relevant to *Discovery* programs. Scope, findings, recommendations, and follow-up on all evaluations will be in the FY 2009 APR.
- **NSF Committees of Visitors (COVs):** COVs evaluate approximately one-third of NSF's activities each year. Eighteen COVs were conducted on *Discovery* programs in FY 2009. COV reports and the program's responses are available on the NSF website after approval by the appropriate Advisory Committee.

Funding Trend

NSF Obligations for <i>Discovery</i> , FY 2005–2009					
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
\$ in billions	\$2.74	\$2.83	\$3.20	\$3.29	\$4.99
% of NSF budget	50%	50%	54%	54%	56%

Verification and Validation:

Validation of the AC/GPA process was completed by an independent external management consultant, IBM Global Business Services.¹⁶

For More Information :

See NSF's FY 2009 APR which will be included in NSF's FY 2011 Budget Request to Congress. The FY 2011 Budget Request will be available February 1, 2010, at www.nsf.gov/about/performance.

¹⁶ The executive summary of the FY 2009 IBM Global Business Services *NSF Performance Measurement Verification and Validation Report* is available at www.nsf.gov/about/performance/FY2009_NSF_V_and_V_Report_Exec_Summary.pdf.

Strategic Outcome Goal 2: Learning

Cultivate a world-class, broadly inclusive science and engineering workforce and expand the scientific literacy of all citizens by:

- Building strong foundations and foster innovation to improve K–12 teaching, learning, and evaluation in science and mathematics.
- Advancing the fundamental knowledge base on learning, spanning a broad spectrum from humans to animals and machines.
- Developing methods to effectively bridge critical junctures in science, technology, engineering, and mathematics (STEM) education pathways.
- Preparing a diverse, globally engaged STEM workforce.
- Integrating research with education and building capacity.
- Engaging and informing the public in science and engineering through informal education.

FY 2009 Assessment

- **Advisory Committee Review:** To evaluate research and education outcomes under *Learning*, NSF convened an external expert group, the AC/GPA, to determine whether NSF has demonstrated significant achievement under this goal. The AC/GPA determined that NSF had met this standard for *Learning* in FY 2009.
- **External Evaluations:** Fifteen external evaluations have been conducted on NSF programs in FY 2009, of which seven were *Learning* programs. Scope, findings, recommendations, and follow-up on all evaluations will be in the FY 2009 APR.
- **NSF Committees of Visitors (COVs):** COVs evaluate approximately one-third of NSF's activities each year. Nine COVs were conducted on *Learning* programs in FY 2009. COV reports and the program's responses are available on the NSF website after approval by the appropriate Advisory Committee.

Funding Trend

NSF Obligations for <i>Learning</i> , FY 2005–2009					
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
\$ in billions	\$1.06	\$1.04	\$0.79	\$0.85	\$1.16
% of NSF budget	19%	18%	13%	14%	13%

Verification and Validation:

Validation of the AC/GPA process was completed by an independent external management consultant, IBM Global Business Services.¹⁷

For More Information :

See NSF's FY 2009 APR which will be included in NSF's FY 2011 Budget Request to Congress. The FY 2011 Budget Request will be available February 1, 2010, at www.nsf.gov/about/performance.

¹⁷ See footnote 16.

Strategic Outcome Goal 3: Research Infrastructure

Build the nation's research capability through critical investments in advanced instrumentation, facilities, cyberinfrastructure, and experimental tools by:

- Filling the gaps in our ability to provide enabling research infrastructure.
- Identifying and supporting the next generation of large research facilities.
- Developing a comprehensive, integrated cyberinfrastructure to drive discovery in all fields of science and engineering.
- Strengthening the nation's collaborative advantage by developing unique networks and innovative partnerships.

FY 2009 Assessment

- **Advisory Committee Review:** To evaluate research and education outcomes under *Research Infrastructure*, NSF convened an external expert group, the AC/GPA, to determine whether NSF has demonstrated significant achievement under this goal. The AC/GPA determined that NSF met this standard for *Research Infrastructure* in FY 2009.
- **External Evaluations:** One external evaluation of a *Research Infrastructure* program was completed in FY 2009. Scope, findings, recommendations, and follow-up will be in the FY 2009 APR.
- **NSF Committees of Visitors (COVs):** COVs evaluate approximately one-third of NSF's activities each year. Four COVs were conducted on *Research Infrastructure* programs in FY 2009. COV reports and the program's responses are available on the NSF website after approval by the appropriate Advisory Committee.

Quantitative Assessments: Construction of Future Facilities

Earned Value Management is a project management technique used to monitor the progress of all types of construction projects. It uses two key metrics—cost variance and schedule variance—to track how close the project is to its planned cost and schedule. This information will be reported in the FY 2009 APR.

Funding Trend

NSF Obligations for <i>Research Infrastructure</i> , FY 2005-2009					
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
\$ in billions	\$1.40	\$1.47	\$1.58	\$1.59	\$2.31
% of NSF budget	26%	26%	27%	26%	26%

Verification and Validation

Validation of the AC/GPA process was completed by an independent external management consultant, IBM Global Business Services.¹⁸

For More Information:

See NSF's FY 2009 APR which will be included in NSF's FY 2011 Budget Request to Congress. The FY 2011 Budget Request will be available February 1, 2010, at www.nsf.gov/about/performance.

¹⁸ See footnote 16.

Strategic Outcome Goal 4: Stewardship

Support excellence in science and engineering research and education through a capable and responsive organization.

Under *Stewardship*, eight performance areas focus on the agency's efficiency and effectiveness in its internal operations and management and in delivering essential services to its constituents in the science, engineering, and education community. The performance areas are:

- **Time-to-Decision:** Inform 70 percent of applicants of a decision within six months.
- **Merit Review:** Improve the transparency and quality of the merit review process.
- **Customer Service:** Improve customer service to the science, engineering, and education communities.
- **Broadening Participation:** Expand efforts to increase participation from underrepresented groups and diverse institutions throughout the United States in all NSF activities and programs.
- **Management of Large Facilities:** Ensure the efficient and effective management of the construction and operation of large facilities.
- **Post-Award Monitoring:** Fully implement NSF's program of post-award financial and administrative monitoring.
- **Strategic Information Technology (IT) Initiatives:** Provide new tools/capabilities (formerly e-Government).
- **IT Security:** Conduct a successful FISMA (Federal Information Security Management Act) IT Program Review.

FY 2009 Assessment

Results of the *Stewardship* performance goals will be included in NSF's FY 2009 annual performance report, which will be incorporated into NSF's FY 2011 Budget Request to Congress.

Funding Trend

NSF Obligations for <i>Stewardship</i> , FY 2005–2009					
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
\$ in billions	\$0.28	\$0.31	\$0.32	\$0.36	\$0.41
% of NSF budget	5%	6%	5%	6%	5%

Verification and Validation

A verification and validation review was conducted by an independent external management consultant, IBM Global Business Services.¹⁹

For More Information

See NSF's FY 2009 APR which will be included in NSF's FY 2011 Budget Request to Congress. The FY 2011 Budget Request will be available February 1, 2010, at www.nsf.gov/about/performance.

¹⁹ See footnote 16.

Results and Education Highlights

The following are some of the NSF-supported research results reported in FY 2009. Additional results can be found at www.nsf.gov/discoveries.

► The *Elementary School Teachers* project involves innovative, hands-on science education. Faculty members and lab personnel from the University of Oklahoma work as facilitators, encouraging elementary school teachers without prior knowledge of the field (biology of the fruit fly) to conduct their own research, raise questions, develop hypotheses, and test those hypotheses. The project, which involves a summer science camp for the teachers, has been expanded to include sixth graders, who get hands-on experience with brain research. These teachers and students develop an interest in scientific work through active engagement in the scientific process of discovery. The project provides a replicable approach for science education and university collaboration with pre-K–12 education. Through integration with the Experimental Program to Stimulate Competitive Research plan for Oklahoma, it demonstrates the potential for broader impacts to researchers across the state and can serve as a vehicle for broadening participation.



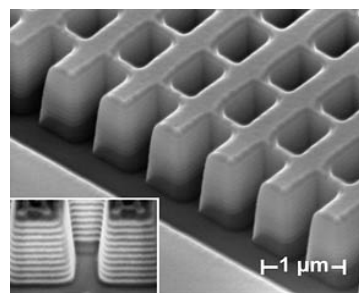
Left to right: Stephen Hinkle (Norman, Oklahoma, Independent School District) and John Tauber (University of Oklahoma undergraduate student) sort fruit flies under the microscope. Credit: Bing Zhang



Green gasoline sits above water in this flask. Credit: Virent Energy Systems, Inc.

► *Green gasoline* is a mixture of chemical compounds that is nearly identical to standard gasoline, yet it comes from biomass, not petroleum. Researchers around the world are working on different approaches to creating green gasoline. Approaches range from harnessing microbes to customizing catalysts (materials that speed up reactions without sacrificing themselves in the process). Each approach is being optimized to efficiently produce desired hydrocarbons. Scientists and engineers have made a number of recent breakthroughs, including the conversion of wood chips into high-octane fuel components and the conversion of sugar (potentially derived from plants) into gasoline, diesel, and jet fuel materials, and precursors for pharmaceuticals and plastics. In the flask at the left, the gasoline and water were produced in a process that converts a sugar-water mixture into hydrocarbons using specialized crystal catalysts called zeolites. The process was developed by Randy Cortright at Virent Energy Systems with support from NSF's Small Business Technology Transfer program.

► *Metamaterials*: When light waves travel from one medium to another, their speed and direction change in a phenomenon known as positive refraction. Thanks to scientists and engineers working with metamaterials, or materials that have been artificially engineered to have properties not normally found in nature, there are literally new directions for light to go. The scientific world was stunned recently when papers based on NSF-supported research at the Nanoscale Science and Engineering Center at the University of California, Berkeley demonstrated the creation of three-dimensional metamaterials that exhibit negative refraction at short wave lengths, including some in the visible spectrum. To create bulk samples of metamaterials, the researchers designed two new nanoscale fabrication techniques. These developments could lead to dramatic advances in applications such as antennas, high-performance computers, and radar-evading stealth technologies.



Above is a scanning electron microscope image of a fabricated structure developed by NSF-supported researchers at the University of California, Berkeley. Credit: Xiang Zhang Group, University of California,

MANAGEMENT ASSURANCES



NSF FY 2009 Federal Managers' Financial Integrity Act Statement of Assurance

The National Science Foundation (NSF) management is responsible for establishing and maintaining effective internal control and a financial management system that meets the objectives of the Federal Managers' Financial Integrity Act of 1982 (FMFIA) and the Office of Management and Budget (OMB) Circular A-123, *Management's Responsibility for Internal Control*. The FMFIA requires agencies to provide an annual statement of assurance on the effectiveness of their management, administrative, and accounting controls (Section 2) and conformance of their financial management systems (Section 4).

NSF has evaluated the effectiveness of internal control over programs and operations to ensure agency compliance with applicable laws and regulations (FMFIA, Section 2) and whether financial management systems conform to federal financial system standards (FMFIA, Section 4). Based on the results of this evaluation, NSF provides reasonable assurance that as of September 30, 2009, its internal controls over programs and operations were operating effectively to ensure compliance with applicable laws and regulations. No material weaknesses were found in the design or operation of internal controls under Section 2 of FMFIA and no system non-conformances were found under Section 4 of FMFIA.

In addition, NSF is leveraging established OMB Circular A-123 and FMFIA assessment methodologies and approaches to assist in assessing the applicable entity-wide controls, documenting the applicable processes, and identifying and testing the key controls applicable to the American Recovery and Reinvestment Act funding.

In accordance with Appendix A of OMB Circular A-123, NSF conducted an assessment of the effectiveness of internal control over financial reporting, which included the safeguarding of assets and compliance with applicable laws and regulations. Based on the results of this assessment for the period ending June 30, 2009, NSF provides reasonable assurance that internal control over financial reporting was operating effectively and no material weaknesses were found in the design or operation of the internal controls.

A handwritten signature in black ink, appearing to read 'Arden L. Bement, Jr.'.

Arden L. Bement, Jr.
Director

November 13, 2009

Internal Control Assessment

NSF's Accountability and Performance Integration Council (APIC) serves as the Senior Assessment Team responsible for documenting, testing, monitoring, and reporting on internal controls. APIC's responsibility includes the assessment of internal controls for program and operational performance designed to ensure compliance with laws and regulations. APIC also directs the assessment of internal controls over financial reporting. APIC is chaired by the Chief Financial Officer (CFO) and includes four Assistant Directors/Office Heads, the Chief Human Capital Officer, the Chief Information Officer, and the General Counsel. The CFO is responsible for providing executive secretariat support to the Chief Operating Officer (COO) for coordination and analysis of NSF's annual assessment of internal controls. The CFO provides the findings from the agency-wide review to the COO and the Senior Management Round Table (SMaRT) for consideration.

The APIC Internal Control Working Group (ICWG) assessed and evaluated NSF's compliance with OMB Circular A-123 requirements as of June 30, 2009, and determined that none of the deficiencies found rise to the level of a material weakness. The ICWG recommended corrective actions for the deficiencies that were identified. The ICWG considered the nature of each deficiency, the existence of a compensating control, the dollar value of transactions potentially affected by the deficiency, the level of risk, and the likelihood that an error may not be prevented or detected. Overall, APIC concluded that none of the deficiencies identified within the various business processes rose to the level of a material weakness.

Office of the Inspector General (OIG) Assessment

The Chief Financial Officers Act of 1990 requires financial statements be prepared and audited annually. This audit is the responsibility of the OIG. For FY 2009, the NSF OIG contracted with Clifton Gunderson LLP for the audit of the agency's financial statements. For FY 2009, NSF received an unqualified audit opinion. The audit report noted no material weaknesses while including one significant deficiency related to the monitoring of cost reimbursement contracts.

Independent Verification and Validation of Property, Plant, & Equipment (PP&E)

The U. S. Antarctic Program (USAP) accounts for approximately 89 percent of NSF's PP&E balance as of June 30, 2009. The multi-year contract between NSF and Raytheon Polar Services Company (RPSC), states that RPSC is responsible for acquiring, maintaining, and performing a physical inventory of USAP property. NSF relies upon RPSC, an outside contractor, to maintain all related source documentation and record amounts for the PP&E activities it conducts. NSF had an independent entity verify and validate the property reports NSF receives from RPSC to obtain an unbiased evaluation and to avoid over reliance on RPSC. This verification and validation project includes capital equipment, construction-in-progress, and freight costs.

Certification and Accreditation (C&A) Assessment

NSF policy, in accordance with federal law, OMB guidance, and the NIST SP 800-37, *Risk Management Guide for Information Technology Systems*, requires all major applications and general support systems to be certified and accredited. During 2009, NSF conducted a C&A assessment of its core Financial Accounting System (FAS). The C&A assessment determined that the FAS controls in place provide adequate security.

Implementation of the American Recovery and Reinvestment Act

Under the Recovery Act, NSF received \$3.0 billion to fund investments in science and engineering research and education and has until September 30, 2010 to obligate these funds.²⁰ NSF established new funding and accountability policies and processes for its Recovery Act program and has made them available to the public on the agency's website at www.nsf.gov/recovery and on *Recovery.gov*. With such a significant increase in agency funding, NSF enhanced controls on the awards process through the agency's existing internal control Senior Management Council and by leveraging existing assessments required by OMB Circular A-123, in accordance with OMB M-09-15 guidance.

Federal Managers' Financial Integrity Act of 1982 (FMFIA)

FMFIA amended the Accounting and Auditing Act of 1950, requiring ongoing evaluations and reports on the adequacy of the systems of internal accounting and administrative control. Managers are required to identify material weaknesses related to programs and operations—Sections 2 and 4 of FMFIA—and provide a single FMFIA report.

- Section 2 of FMFIA requires agencies to assess and report annually on the reasonable assurance as to the effectiveness of their internal controls to ensure compliance with applicable laws; protect against loss from waste, fraud, and abuse; and ensure receivables and expenditures are properly recorded. The reasonable assurance is a statement assuring NSF's internal controls are achieving their intended objectives.
- Section 4 of FMFIA requires agencies to assess and report annually on the reasonable assurance that all financial and mixed financial systems are in conformance with government-wide requirements. These financial system requirements are presented in OMB Circulars A-127 and A-130.

Tables that summarize the results of NSF's financial statement audit and internal control review can be found in Appendix I.

²⁰ ARRA also provided \$2.0 million to the NSF OIG. For more information about NSF's Recovery Act funding, see page I-4.

FINANCIAL DISCUSSION AND ANALYSIS

NSF's goals for financial management are to deliver the highest level of business services to our customers and stakeholders through effective internal controls and efficient work processes and to provide reliable and timely financial information to support sound management decisions. NSF is committed to the principles of accountability, excellence, and transparency. The result is an established record of effectiveness in federal financial management documented by clean audit opinions and a leadership role in government-wide grants management activities. In FY 2009, areas of focus included the following:

- The American Recovery and Reinvestment Act of 2009 (ARRA or Recovery Act) introduced additional accountability and reporting requirements for the \$3.0 billion received by NSF under the Recovery Act.²¹ NSF developed a multi-phase approach for compliance and quality assurance. Accountability and transparency were fundamental requirements for the awarding, monitoring, tracking, and reporting of Recovery Act funds.
- The escalating pace of change in the federal environment is an opportunity to improve financial management performance. Changes currently affecting NSF include new technology, new accountability legislation, and restructured financial functions. In FY 2009, NSF continued to make progress in modernizing its aging financial accounting system. The modernization initiative will provide the agency with state-of-the-art financial and business management capabilities that ensure stewardship of NSF resources in support of science and engineering research and education.
- NSF continued to explore better ways to provide meaningful information to our stakeholders and the general public. A concise, four-page *NSF Highlights*²² document was produced as an information tool for the new Administration's transition team. The document received a Certificate of Achievement from the Association of Government Accountants for high quality citizen-centric accountability reporting.
- NSF successfully transitioned its travel and bank cards through the GSA Smart Pay II program to a new bank. The conversion was seamless and impacted the majority of employees, providing them significantly improved card services and increased federal rebates for the agency.

NSF has a fiduciary and stewardship responsibility to efficiently and effectively manage its federal funds and to comply with federal guidance on financial management. As part of this responsibility, the agency prepares annual financial statements in conformity with generally accepted accounting principles (GAAP) for U.S. federal government entities and subjects them to an independent audit to ensure their integrity and reliability in assessing performance. For FY 2009, NSF received an unqualified audit opinion. The audit reported noted no material weaknesses while including one significant deficiency related to the monitoring of cost reimbursement contracts. NSF made progress in FY 2009 in implementing a process for performing contract audits and additional actions are currently underway to address audit concerns in this area.

Understanding the Financial Statements

NSF's FY 2009 financial statements and notes are presented in accordance with OMB Circular No. A-136, *Financial Reporting Requirements* dated June 10, 2009. NSF's current year financial statements and notes are presented in a comparative format. The Stewardship Investment schedule presents

²¹ The Recovery Act provided \$3.0 billion to NSF for programmatic activities and \$2.0 million to the Office of Inspector General for oversight activities. See page I-4 for more information on NSF's Recovery Act funding.

²² *NSF Highlights* is available at www.nsf.gov/about/performance/nsf2008Highlights.pdf.

information over the last five years. Figure 14 summarizes the significant changes in NSF's financial position in FY 2009.

Figure 14.
Significant Changes in NSF's Financial Position in FY 2009²³
 (dollars in thousands)

Net Financial Condition	FY 2009	FY 2008	Increase/ (Decrease)	% Change
Assets	\$12,627,129	\$9,055,028	\$3,572,101	39.4%
Liabilities	\$521,544	\$555,048	(\$33,504)	-6.0%
Net Position	\$12,105,585	\$8,499,980	\$3,605,605	42.4%
Net Cost	\$6,002,380	\$5,944,807	\$57,573	1.0%

Figure 15.

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). NSF's total assets are largely composed of *Fund Balance with Treasury*. A significant balance also exists in the *General Property, Plant and Equipment (PP&E)* account (Figure 15).

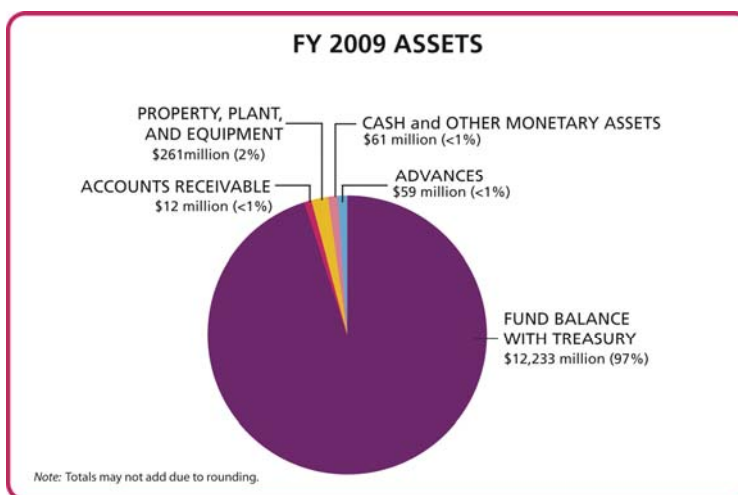
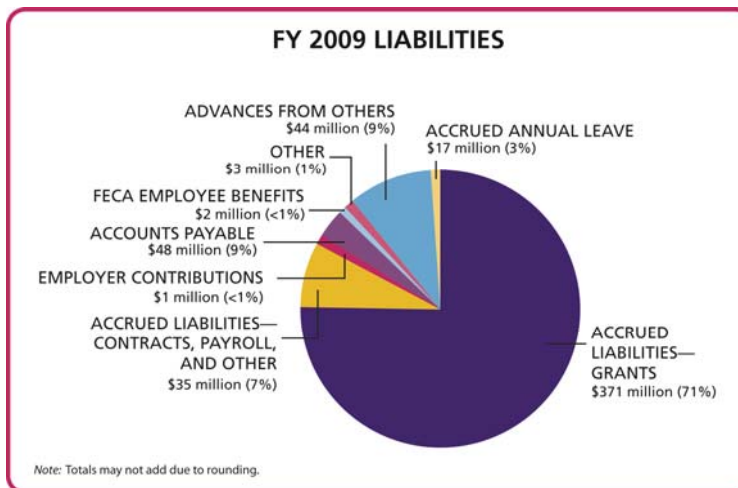


Figure 16.

In FY 2009, total assets increased 39.4 percent over FY 2008 assets. The bulk of the increase occurred in the *Fund Balance with Treasury* account, which grew by \$3.6 billion in FY 2009. *Fund Balance with Treasury* is funding available from which NSF is authorized to make expenditures and pay amounts due through the disbursement authority of the Department of Treasury. It is increased through appropriations and collections and decreased by expenditures and rescissions. The FY 2009 increase is nearly entirely attributable to the \$3.0 billion in ARRA funds appropriated to NSF in FY 2009. While NSF had obligated \$2.4 billion of ARRA funding by September 30, 2009, the majority of the ARRA appropriations remained in *Fund Balance with Treasury* due to the nature and timing of scientific grant expenditures.

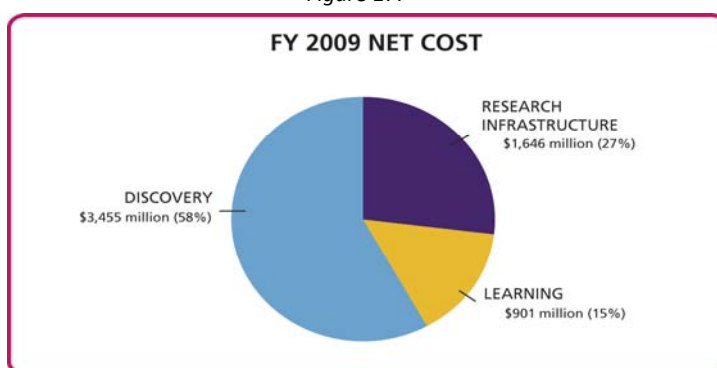


²³ The change in total assets and net position primarily reflects the increase in ARRA funding of \$3.0 billion.

NSF's *Total Liabilities* decreased by 6 percent in FY 2009. NSF's largest liability account is *Accrued Liabilities-Grants* (Figure 16). This account represents amounts owed to NSF grantees for expenses incurred but not submitted to NSF as of the date of the financial report. While *Accrued Liabilities-Grants* increased slightly in FY 2009 due to the new ARRA-funded grants, the increase was offset by a significant decrease in the *Advances from Others* account. *Advances from Others* represents payments received in advance from other federal agencies, through interagency agreements, where those funds have not been fully expended. In FY 2009, NSF changed from operating on an advance basis to a reimbursable basis. Using a reimbursable basis, funds are collected primarily from other agencies upon completion of work instead of in advance, therefore NSF's *Advances* account decreased.

Statement of Net Cost: This statement presents the annual cost of operating NSF programs. The net cost of each specific NSF program operation equals the program's gross cost less any offsetting revenue. *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, and activities related to the advancement of NSF information systems technology) and activities of the National Science Board (NSB) and the Office of Inspector General (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* (Figure 17). These administrative and management activities are the focus of the agency's *Stewardship* strategic goal.

Statement of Changes in Net Position: The Statement of Changes in Net Position presents the agency's cumulative net results of operation and unexpended appropriations for the fiscal year. NSF's *Net Position* increased by \$3.6 billion (42 percent) in FY 2009. The increase is reflected in the *Appropriations Received* account, which grew by approximately \$3.4 billion over FY 2008. The increase is due to the new Recovery Act appropriations. *Appropriations Received* is increased by appropriations from Congress and decreased when those appropriations are expended. In FY 2009, NSF obligated the majority of the Recovery Act appropriation funds, however, since scientific research progresses at a normal and steady rate, significant expenditures are not expected in the early months of research. Therefore, the bulk of the Recovery Act appropriations remain in an obligated but unexpended state in the *Appropriations Received* account on NSF's *Net Position*.

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 2009, *Total Budgetary Resources* increased by \$3.4 billion due to the new Recovery Act funding appropriated in the fiscal year. New *Budget Authority-Appropriation* for the Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction accounts were \$7,683 million, \$945 million, and \$552 million, respectively. The combined new *Budget Authority-Appropriation* in FY 2009 for the NSB, OIG, and Agency Operations and Award Management

accounts totaled \$312 million. Total *Obligations Incurred* in FY 2009 also increased significantly, by \$2.8 billion, due predominantly to the \$2.4 billion of new Recovery Act grants awarded in the fiscal year.

Stewardship Investments: NSF-funded investments yield long-term benefits to the general public. NSF investments in research and education produce quantifiable outputs, including the number of awards made and the number of researchers, students, and teachers supported or involved in the pursuit of -science and engineering research and education. The FY 2009 increase in *Research and Human Capital Activities* reflects increased agency funding.

Limitations of the Financial Statements

In accordance with the revised guidance provided in OMB Circular No. A-136, NSF discloses the following limitations of the agency's FY 2009 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 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 which totaled \$6.5 billion in FY 2009. In addition, under the Recovery Act, NSF received \$3.0 billion. The OIG received \$2.0 million in Recovery Act funding, to provide oversight of the agency's Recovery Act funds. Other FY 2009 revenue sources included \$119.3 million in reimbursable authority, \$88.7 in H-1B Nonimmigrant Petitioner Fee collections, and \$47.4 million in donations to support NSF activities.²⁴ NSF made investments in fundamental science and engineering research and education in support of the Foundation's three strategic outcome goals of *Discovery*, *Learning*, and *Research Infrastructure*. Five percent of NSF's budget was for *Stewardship* activities that focus on internal agency operations and award management activities.

In FY 2009, non-Recovery Act funding investment priorities included the Cyber-enabled Discovery and Innovation program; undergraduate education; and high risk, high reward research. Major programs funded included CAREER, NSF's flagship program for young faculty; Graduate Research Fellowships; Major Research Instrumentation; and Research on Learning in Formal and Informal Settings. NSF also supported interagency research and development (R&D) priorities: the Networking and Information Technology R&D, the National Nanotechnology Initiative, the U.S. Climate Change Science Program, and Homeland Security. The major research facilities and equipment projects supported were the Advanced Laser Interferometer Gravitational-Wave Observatory (LIGO), Atacama Large Millimeter Array, IceCube Neutrino Observatory, and Advanced Technology Solar Telescope. NSF's Recovery Act funding provided support for over 4,600 awards in FY 2009. For more information on NSF's Recovery Act program, see page I-4. At the time this report was being prepared, NSF had not yet received its FY 2010 appropriations.

Improper Payments Information Act of 2002

The Improper Payments Information Act (IPIA) of 2002 and OMB Circular A-123, Appendix C, *Management's Responsibility for Internal Control: Requirements for Effective Measurement and*

²⁴ Donations of \$47.4 million include \$567,512 of interest earned on the donations received in FY 2009.

Remediation of Improper Payments,²⁵ 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. From FY 2006 to FY 2008, NSF received relief from the annual IPIA reporting due to the very low improper payment rates reported in its FY 2004 and FY 2005 Annual Financial Reports. However, during this relief period, NSF remained vigilant in its monitoring of and continued risk-based grant expenditure sampling for improper payments in support of the NSF post-award grant monitoring program. These efforts were successful in ensuring that NSF's program remained low risk.

In FY 2009, NSF conducted a statistical review of its FY 2008 Federal Financial Report transactions received from grant recipients. Consistent with prior year results, the occurrence of NSF improper payments continues to be well below the significant standard of improper payments, which is defined by OMB guidance as exceeding \$10 million and 2.5 percent of total outlays. Details of NSF's IPIA reporting can be found in Appendix 2. Beyond FY 2009, NSF intends to continue its grant expenditure sampling process for monitoring improper payments and its internal risk-based approach, as part of NSF's integrated and comprehensive grant monitoring program strategy.

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 and efficient award processes and to provide reliable and timely financial data to enable management to make informed decisions. FAS is a custom-developed online, near real-time system that provides the full spectrum of financial transaction functionality required by a grants-making agency. In addition, FAS 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, Awards System, Guest (panelists) Travel and Reimbursement System, e-Travel System, and the FastLane System, which 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 25,000 active awards with 1,967 external grantee institutions. FAS processes electronic payments of funds to grantees in a seamless, controlled environment through FastLane and uploads information to FastLane so grantees can check fund availability in near real-time. FAS reporting capabilities include online look-ups to verify funds, commitment and obligation tracking, 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*, an application that streamlines information distribution. In addition, information from FAS is captured and used in NSF's Enterprise Information System.

Although 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, NSF is committed to sustaining maximum capacity of the system and still remain current with all the laws and regulations. The Financial Management Line of Business (FMLoB) continues to define government-wide standards that all agencies will be required to implement. Consistent with NSF's e-Government Implementation Plan, FAS will remain in a steady-state phase until it is replaced with a new financial management system. In order to meet the new requirements, NSF has begun its planning phase of its financial and property management system initiative to replace FAS. Key elements for the future financial management system are to ensure that NSF continues to fully support the integrated grant financial requirements and to

²⁵ OMB A-123, Appendix C can be found at www.whitehouse.gov/omb/assets/omb/circulars/a123/a123_appx-c.pdf.



include a property management system within the financial system framework. During this planning phase, NSF has started documenting current business processes and developing functional and technical requirements. The agency has also begun to identify the interrelationships between the FMLoB and the Grants Management Line of Business (GMLoB), to ensure that core 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.

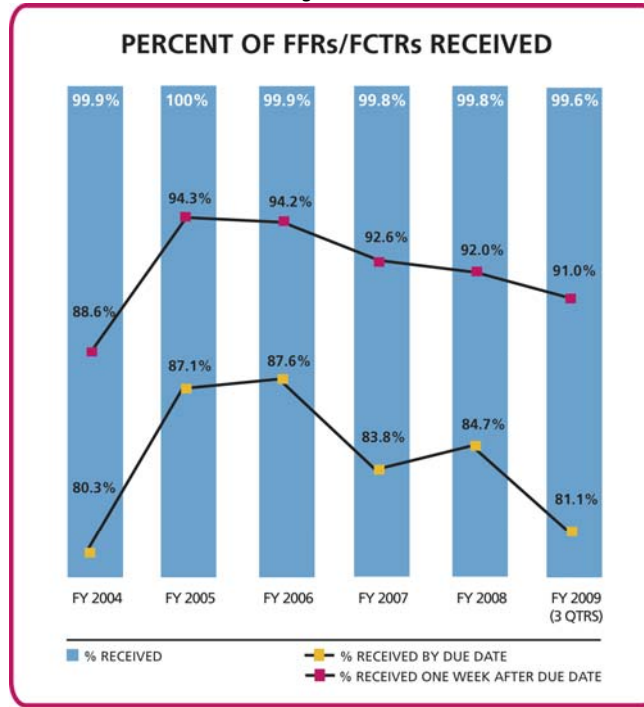
Treasury Scorecard: Since inception of the Department of Treasury's Financial Management Service Scorecard in FY 2004, NSF has consistently received the highest rating for accuracy and timeliness of our financial reporting. The most recent ratings are shown in *Figure 18*.

Figure 18.

U.S. Department of Treasury Financial Management Scorecard		
Category	Standard	Results (as of 6/30/09) *
Accuracy of Reporting**	<i>Green</i> : If differences are 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 are completed by the third workday. <i>Yellow</i> : If original report is submitted by the 3rd workday and supplemental report submitted on the 4th workday. <i>Red</i> : If original report is submitted after the 3rd workday and/or supplemental submitted after the 4th workday.	
*Most current data available. ** FMS 224, SF1218/1221, and FMS 1219/1220.		

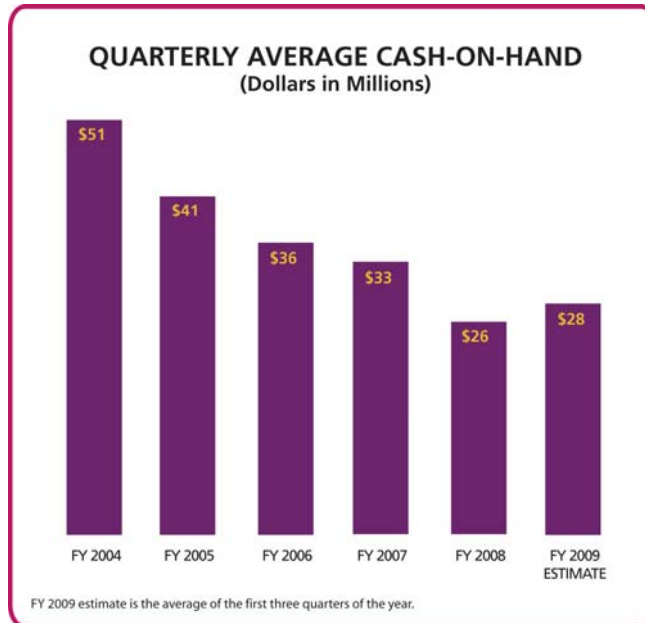
Federal Cash Transaction Report (FCTR) and Federal Financial Report (FFR): Grantees are required to report the status of funds received from NSF on a quarterly basis through the submission of a FFR report. (The FCTR report was discontinued as of January 1, 2009.) The reports are prepared and submitted electronically to NSF by the grantee either through the FastLane Financial Function or *Research.gov*. NSF follows up with preparers to ensure receipt of reports, as evidenced by the increase in report submissions received by one week after the due date. By the end of the quarter, nearly 100 percent of grantees had submitted their reports. As shown in *Figure 19*, through the third quarter of FY 2009, 81 percent of NSF grantees had submitted their FFR reports by the due date and 91 percent of grantees had submitted their FCTR or FFR reports within one week after the due date.

Figure 19.



Cash-on-Hand: Figure 20 shows the results of NSF's increased emphasis on enhanced FFR/FCTR monitoring activities implemented in January 2005. Unexpended federal cash held by grantees has decreased by over \$20 million, from a quarterly average of \$51 million in FY 2004 to an estimated quarterly average of \$28 million in FY 2009. This decrease has been due to improved cash management by grantees as a result of the effective NSF monitoring activities.

Figure 20.



Chief Financial Officers (CFO) Council Metric Tracking System (MTS) Financial Management Indicators: NSF continues to receive high scores for the MTS financial management indicators. In FY 2009, NSF received high ratings (“Green”) in five of six indicators: Fund Balance with Treasury, Amount in Suspense Greater Than 60 Days, Electronic Payments, Percent of Invoices Paid on Time, and Interest Penalty Paid. NSF received a “Red” rating for Delinquent Accounts Received From Public Over 180 Days. Agencies receive a “Red” rating for Delinquent Accounts Received From the Public Over 180 Days when the percentage of delinquent debt over 180 days old exceeds 20 percent of total accounts receivable. In the case of the NSF, the total amount of receivables on the books is very small and therefore subject to large percentage swings when a small number of debts either become delinquent or are resolved. In FY 2009, three debts (\$80,000, \$35,000, and \$10,000) became over 180 days delinquent. Since total agency accounts receivable are only \$298,000, the otherwise immaterial delinquencies over 180 days resulted in the NSF’s high percentage of delinquent debt. Detailed information about each indicator and NSF’s performance is available at www.fido.gov/mts/cfo/public.

Recent Trends: The following table summarizes some key agency workload and financial indicators. Obligations are a direct result of each year’s appropriation while expenses reflect multiple years of prior obligations. The large increases in obligations incurred, the number of competitive awards, the number of grant payments, the dollar amount of grant payments as well as the average annual award size reflect NSF’s Recovery Act funding, which provided an additional \$3.0 billion to NSF’s FY 2009 regular appropriations of \$6.5 billion.

Figure 21.
Recent Trends

	FY 2006	FY 2007	FY 2008	FY 2009	% Change FYs 2006– 2009
Obligations Incurred *	\$5,878.1	\$6,169.2	\$6,361.9	\$9,140.9	55.5%
NSF Expenses (Net of Reimbursements)*	\$5,595.8	\$5,636.1	\$5,944.8	\$6,002.4	7.3%
Stewardship (Expenses) *	\$321.1	\$276.0	\$283.3	\$332.6	3.6%
Full-time Equivalents (includes OIG)	1,277	1,310	1,339	1,388	8.7%
Competitive Proposals	42,050	44,106	43,907	45,228	7.6%
Competitive Awards	10,318	11,354	11,024	14,641	41.9%
Average Annual Award Size (<i>competitive awards</i>)	\$153,545	\$154,494	\$162,024	\$171,561	11.7%
Average Award Duration (<i>competitive awards, in years</i>)	2.70	2.63	2.58	2.63	-0.03
Number of Grant Payments	19,714	19,074	19,481	25,723	30.5%
Dollar Amount of Grant Payments*	\$4,884.5	\$4,909.9	\$5,122.5	\$8,540.1	74.8%

* Dollars in millions

Future Business Trends and Events

NSF is continuously faced with increased expectations for oversight, transparency, and accountability. To meet these expectations, NSF is taking a holistic view of financial management, going beyond improving its automated systems to integrating grants management, budget execution, and business services at the programmatic level and beyond. As we monitor resources, we will continue to focus on discerning the value of the goods and services we get in return for our expenditures. The areas on which NSF will focus in both the immediate and long-term future are described in the following section.

Internal Control Quality Assurance: To foster unprecedented levels of accountability and transparency in government spending of Recovery Act funds, NSF implemented a multi-phase internal control process. In FY 2009, Phase I identified the necessary controls. In Phase II, which will be implemented in FY 2010, NSF will continue its baseline assessment and address the management findings from the agency's FY 2009 internal control review of the ARRA program policies and processes. Agencies must ensure the quality and completeness of recipient reporting on Recovery Act-funded projects. NSF will undertake an internal control review of the agency's recipient reporting in accordance with reporting requirements of Section 1512 of the Recovery Act. Recipient reporting will provide information about who has received NSF Recovery Act funds, the amount and purpose of the award, and completion status, which will include data on the number of jobs created and retained.

NSF has cleared 20 of the 32 findings noted in FY 2008 Management Action Plans. To gain efficiencies, we streamlined the internal control business processes and external audit cycle memos by combining documentation. The combined documents will be updated annually and will continue to gain efficiencies in the upcoming years through both time and money savings. NSF will continue efforts to clear the remaining findings from the FY 2008 Management Action Plans.

NSF has begun an effort to value the real property belonging to the U.S. Antarctic Program. The analysis of real property and construction-in-progress assets includes buildings and land improvements. Various engineering and cost recognition methodologies are being used to determine the original cost basis of the facilities. This project is a significant undertaking for the agency but, when completed, will allow NSF to address future accountability issues more efficiently.

Financial Assistance Reporting: OMB approved the FFR as the replacement for existing grant recipient financial reports with full implementation to be completed by all federal agencies not later than October 1, 2009. The FFR simplifies reporting requirements, procedures, and associated business processes by using a standardized pool of data elements as defined by the Grants Policy Committee of the Federal CFO Council. NSF first implemented the FFR in FastLane Financial Functions as an optional grantee expenditure report during July 2007 and made the FFR the required financial report in January 2009. Additionally, NSF developed an FFR within its *Research.gov* initiative that has been used by grantees and will be offered to other federal research-oriented agencies. NSF's FFR will assist OMB in advancing Federal Grants Streamlining initiatives. It will also 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.

Financial Service Offerings of the NSF FMLoB: NSF is in the planning phase of its financial and property management system initiative, iTRAK. Subject to the availability of funds, iTRAK will replace the current legacy FAS and provide the agency with state-of-the-art financial and business management capabilities. During the planning phase of iTRAK, NSF will develop its future business processes and functional and technical requirements for the new system. The Federal System Integration Office (FSIO) core system requirements and standard business process will be used as the foundation for this effort.

iTRAK planning will comply with the FMLoB requirements and guidelines as well as the revised OMB Circular A-127, *Financial Management Systems*, requirements mandating the use of FSIO-certified commercial off-the-shelf (COTS) systems for core financials and the adoption of FSIO standard government business processes. The initiative also addresses a prior-year property plant and equipment audit finding. One of the key success factors for iTRAK is ensuring that data migrating to the new system has been cleansed. To that end, the iTRAK core team is developing a data readiness strategy and will be working with data owners across the agency to ensure the integrity of the data being migrated to the new system.

CHAPTER II: FINANCIALS



A MESSAGE FROM THE CHIEF FINANCIAL OFFICER

I am pleased to report that in FY 2009 the National Science Foundation (NSF) received an unqualified audit opinion, affirming that NSF's financial statements for the year ended September 30, 2009, were presented fairly in all material respects, in conformity with U.S. generally accepted accounting principles. The audit report noted no material weaknesses while including one significant deficiency related to the monitoring of cost reimbursement contracts. The Foundation continued to make progress in FY 2009 in implementing a process for performing contract audits and additional actions are currently underway to address audit concerns in this area. There were no material weaknesses or significant deficiencies included in NSF's prior year FY 2008 audit report.

The enactment of the American Recovery and Reinvestment Act (ARRA) in February 2009 resulted in an unusual year for NSF. NSF received \$3.0 billion under ARRA, increasing NSF's FY 2009 budget by nearly 50 percent, to \$9.49 billion. ARRA requires a significant level of transparency and accountability for both federal agencies and our grantee recipients with new funding terms and reporting requirements. NSF established a senior ARRA accountability official and a senior management steering committee to oversee all aspects of our implementation plan. Several cross-agency teams were established—in the areas of budgeting, pre-award planning, post-award monitoring and reporting—to focus on the full spectrum of implementation issues. The cross agency teams developed internal processes and protocols along with policies, websites, and guidance for the grantee community. NSF also worked closely with the Office of Management and Budget (OMB), the science and engineering research and education community and fellow federal research agencies to ensure guidance was consistent and to provide outreach. NSF staff worked diligently within our existing framework and controls, utilizing the agency's existing merit review process. The result was that in FY 2009, NSF evaluated over 45,000 proposals and made a record 14,641 new awards. At year-end, NSF had obligated \$2.4 billion (80 percent) of its total ARRA funding.

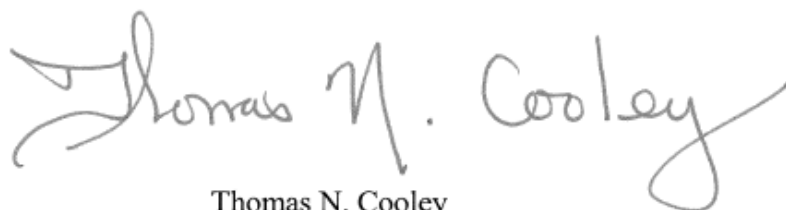
Other notable efforts undertaken during the year include the following:

- A four-page “NSF Highlights” document was produced this year as an information tool for the new Administration's transition team. The report was also shared with the CFO Council and other NSF stakeholders. The document received very positive feedback including a Certificate of Achievement from the Association of Government Accountants for high quality citizen-centric performance and accountability reporting. NSF is continually exploring better ways to provide useful information to our stakeholders and the general public.
- NSF conducted a statistical review of its Federal Financial Report transactions received from grant recipients. The review determined that the occurrence of NSF improper payments continues to be well below OMB guidance for significant improper payments. The review confirms the success of

our continuous risk-based post-award monitoring program and Improper Payments Information Act reporting to OMB on a cyclical basis.

- NSF is conducting a valuation of real property for the U.S. Antarctic Program (USAP) with a two-phase approach. Phase 1 analyzed the real property facilities, including building and land improvements associated with four buildings at the McMurdo Station and two buildings at the South Pole Station in Antarctica. Phase 2 is currently in progress and includes the remainder of the buildings at the McMurdo Station and the South Pole Station. When completed NSF will have an engineering-based independent assessment of NSF's real property values.
- NSF successfully transitioned its travel and bank cards through the GSA Smart Pay II program to a new bank. The conversion provided NSF employees with significantly improved card service and the agency with increased federal rebates.
- NSF maintained an active leadership role in the federal financial management, federal grants management, and intergovernmental management and accountability arenas, through CFO Council committees and grants management initiatives. NSF also took an active role in assisting the CFO Council with the transition of new CFOs and Deputy CFOs. These activities help strengthen and improve financial management across the federal government.

Our commitment to delivering the highest level of financial management services to our customers and stakeholders enables NSF to pursue critical investments in science and engineering research and education that will make a stronger economy and a more secure nation.



Thomas N. Cooley
Chief Financial Officer
and Director of Budget, Finance and Award Management

November 12, 2009



National Science Foundation • 4201 Wilson Boulevard • Arlington, Virginia 22230
Office of the Inspector General

November 12, 2009

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

Dr. Steven C. Beering
Chair, National Science Board

FROM: Allison Lerner *Allison Lerner*
Inspector General, National Science Foundation

SUBJECT: Audit of the National Science Foundation's
Fiscal Years 2009 and 2008 Financial Statements

This memorandum transmits Clifton Gunderson LLP's financial statement audit report of the National Science Foundation (NSF) for Fiscal Years 2009 and 2008.

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 LLP, an independent public accounting firm, performed an audit of NSF's Fiscal Years 2009 and 2008 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*, as amended, issued by the United States Office of Management and Budget.

Clifton Gunderson LLP issued an unqualified opinion on NSF's financial statements. In its Report on Internal Control over Financial Reporting, Clifton Gunderson LLP reported a significant deficiency related to NSF's contract monitoring of cost reimbursement contracts and did not report any material weaknesses in internal control. Clifton Gunderson LLP also reported that there were no reportable 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). Finally, Clifton

Gunderson LLP found no reportable instances of noncompliance with laws and regulations it tested.

NSF management's response, dated November 12, 2009, follows Clifton Gunderson LLP's report.

Evaluation of Clifton Gunderson LLP's Audit Performance

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

- Reviewed Clifton Gunderson LLP'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 LLP's audit report to ensure compliance with Government Auditing Standards and Office of Management and Budget Bulletin No. 07-04, as amended; and
- Coordinated issuance of the audit report.

Clifton Gunderson LLP is responsible for the attached auditor's report dated November 12, 2009, and the conclusions expressed in the report. We do not express any opinion on NSF's financial statements or conclusions on the effectiveness of internal control, 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 has any questions, please contact me or Deborah H. Cureton, Associate Inspector General for Audit on 703-292-4985.

Attachment

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

INDEPENDENT AUDITOR'S REPORT

Inspector General, National Science Foundation
Director, National Science Foundation
Chair of National Science Board

In our audit of the National Science Foundation (NSF) for fiscal year (FY) 2009 we found:

- The balance sheets of NSF as of September 30, 2009 and 2008, and the related statements of net cost, changes in net position, and budgetary resources for the years then ended (hereinafter referred to as “consolidated 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, however we did note a significant deficiency;
- No reportable instances of noncompliance with laws and regulations we tested, including the Federal Financial Management Improvement Act of 1996 (FFMIA).

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

OPINION ON FINANCIAL STATEMENTS

In our opinion, 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, 2009 and 2008; 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 or on management’s assertion on internal control included in the MD&A.

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 a significant deficiency.

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 the entity'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 deficiency described in **Exhibit I** to be a significant deficiency 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. Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily disclose all significant deficiencies that are also considered to be material weaknesses. However, we do not believe that the significant deficiency described in **Exhibit I** is a material weakness.

We also noted certain other non-reportable matters involving internal control and its operation that are communicated in a separate letter to NSF management.

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 of NSF's compliance with selected provisions of laws and regulations for FY 2009 disclosed no instances of noncompliance that would be reportable under United States generally accepted government auditing standards or OMB audit guidance. However, the objective 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 AND NONCOMPLIANCE ISSUES

As required by United States generally accepted government auditing standards and OMB Bulletin No. 07-04, as amended, 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 10, 2008.

The prior year audit report did not disclose any deficiencies considered a Significant Deficiency; however, the report did disclose that NSF was evaluating a potential Anti-Deficiency Act (ADA) violation pertaining to a payment made to a contractor possibly in excess of its related appropriation. In April 2009, in consultation with the Government Accountability Office, and additional accounting research, NSF legal counsel determined that NSF had not violated the ADA.

CONSISTENCY OF OTHER INFORMATION

NSF Management's Discussion and Analysis (MD&A) and other required supplementary information contains a wide range of information, some of which is not directly related to the financial statements. 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. However, we do not express an opinion on this information.

The introductory information, performance information and appendixes listed in the table of contents of the MD&A are presented for additional analysis and are not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on them.

OBJECTIVES, SCOPE AND METHODOLOGY

NSF 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), 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 its internal control related to financial reporting (including safeguarding of assets), and compliance with laws and regulations (including execution of transactions in accordance with budget authority), (5) tested relevant internal controls over financial reporting, and compliance, and evaluated the design and operating effectiveness of internal control, (6) considered the design of 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 selected provisions of laws and regulations that have a direct and material effect on the financial statements and those required by OMB audit guidance that we deemed applicable to NSF's financial statements for the fiscal year ended September 30, 2009. 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 guidance.

AGENCY COMMENTS AND OUR EVALUATION

NSF's response to the findings identified in our audit is described in the accompanying Exhibit I. We did not audit NSF's response and, accordingly, we express no opinion on it.

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 12, 2009

**NATIONAL SCIENCE FOUNDATION
CONSIDERATION OF INTERNAL CONTROL
SIGNIFICANT DEFICIENCY
September 30, 2009**

Contract Monitoring on Cost Reimbursement Contracts

Background and Control Deficiency Assessment Criteria:

In prior years' internal control reports, we noted that NSF had weaknesses in its contract monitoring policies and procedures, especially with respect to cost reimbursement contracts. Even though improvements had been made over the years, in FY 2009 NSF has not addressed the most pressing conditions previously reported. The lack of progress in these areas, coupled with weaknesses noted by the NSF OIG during various contract administration reviews, and a report issued by GAO on October 30, 2009 specifically mentioning NSF and several other agencies describing the inadequate cost surveillance controls over these cost reimbursement type contracts, has again raised this matter to the level of a significant deficiency in internal control.

The weaknesses noted during our audit are as follows:

1. Delays in securing Incurred Cost Audits for NSF's largest and riskiest contracts, and not properly monitoring the receipt, audit, and approval of Cost Accounting Standards (CAS) disclosure statements.
2. Contract oversight procedures are inadequate and ineffective, including evaluation of contractor's accounting systems prior to awarding cost reimbursement type contracts.
3. Contracting Manual of policies and procedures is incomplete for the administration of cost reimbursement contracts.

Without improvements in these areas, management cannot ensure the reasonableness and accuracy of costs paid on contracts, especially those contracts considered "high risk."

Conditions:

In FY 2009, NSF obligated approximately \$480 million for contracts for the delivery of products and services. Of this amount, \$361 million was obligated for cost reimbursement contracts, of which \$270 million allow advance payments for services on programs with three contractors, with the majority going to one contractor.

The following paragraphs describe the specific conditions that exist at September 30, 2009.

1. Incurred Cost Audits

Incurred cost audits are an important tool that enables management to assess a contractor's compliance with financial terms and conditions of a contract. For contracts subject to Cost Accounting Standards (CAS), an incurred cost audit can only be performed with an approved CAS disclosure statement.

In the FY 2000 to 2004 incurred cost audits of NSF's largest contractor, the Defense Contract Audit Agency (DCAA) questioned approximately \$56 million for the five-year period. This

audit conclusion was based in part on the contractor's lack of compliance with the CAS disclosure statement effective under the terms of its contract with NSF. Due primarily to the uncertainties surrounding the enforceability of the CAS disclosure statement, approximately \$21 million of the questioned costs were allowed; leaving approximately \$30 million unresolved, after reviewing and accepting additional supporting documentation for \$5 million in direct costs. The impact of NSF's allowance of these DCAA identified questioned costs is not clear with respect to evaluating similar costs in future years' audits. The contractor provided a subsequent disclosure statement, which has not been reviewed or approved. Without an audited and approved CAS disclosure statement in place for this contractor, NSF may not be able to collect future questioned costs for the remainder of the contract. Beginning in 2005, NSF has been approving advanced payments without an approved CAS disclosure statement, therefore uncertainties remain about the enforceability of the disclosure statement and the collectability of any questioned costs identified over the remaining term of the contract.

NSF has not obtained these audits of its largest contractor since the last ones were performed for FYs 2000 – 2004. In June 2009, NSF did attempt to obtain an incurred cost audit of NSF's largest contractor for FYs 2005 – 2007 with DCAA. However, DCAA informed NSF in September 2009 that they could not perform the audit due to staffing limitations. NSF has not explored other options to have these audits performed.

In summary, without approved disclosure statements and the performance of related incurred costs audits, NSF does not have assurance that it has not overpaid for services provided by its largest contractors.

2. Effectiveness of Oversight Procedures

- a) NSF does have a program in place to perform examinations of the costs claimed by its three advance payment contractors. However, the program is not sufficiently comprehensive or risk-based. NSF has contracted with DCAA to perform Quarterly Expenditure Report (QER) reviews to assist NSF in monitoring the contractors' billings. Two of these QER reviews result in audit opinions, but the other is limited to the performance of certain agreed-upon procedures (AUPs). For NSF's largest contractor, DCAA provides the more limited AUP QERs which are less detailed. Although these QERs (AUPs and opinion level work) add value, they are not a substitute for incurred cost audits that do test for allowability of costs, both direct and indirect. An oversight program based on these two types of QER reviews alone provides little assurance that the amounts paid were reasonable and benefited the NSF projects. Relying on only these two types of QER reviews for oversight purposes highlights even further the need for timely cost incurred audits for high risk contracts. Therefore, without routinely performing incurred cost audits, NSF does not have the information needed to detect significant over-spending on its advance payment contracts.
- b) GAO conducted a performance audit focused on the extensive use of cost-reimbursement contracts by Federal agencies. GAO's report dated October 30, 2009, *Contract Management, Extent of Federal Spending under Cost-Reimbursement Contracts Unclear and Key Controls Not Always Used*, identified improvements needed in various federal agencies' contract administration. GAO specifically made the following observations regarding NSF's oversight and contract monitoring activities:

- The rationale for using cost-reimbursement type contracts was unclear or not documented.
- There was no evidence in certain cost-reimbursement contract files that an analysis was conducted to determine if contract types with firmer pricing was considered.
- A pre or post-award review of the adequacy of the contractor's accounting system on contracts selected for review had not been performed for 4 of 10 contracts.
- Cost surveillance was considered inadequate, and specific mention was made of recent cost incurred audits findings relating to the billing of indirect costs as direct costs.

Even though NSF has taken various actions beginning in late FY 2007 to improve its pre and post-award oversight procedures to avoid these problems, NSF needs to address deficiencies with contracts in place before these procedural changes were made. Based on our review of NSF's contract monitoring procedures during our FY 2009 audit, we concur with GAO's overall assessment that NSF's cost surveillance practices need improvement.

- c) The NSF OIG issued various reports and communications pointing out ongoing weaknesses in NSF's contract administration, including missing or unapproved CAS disclosure statements for two of NSF's three largest cost reimbursement contractors.

3. Completeness of Contracting Manual

Even though NSF has made many improvements in its Contracting Manual since FY 2007, when we last reported a significant deficiency in this area, the manual does not include adequate policies and procedures relevant to the conditions noted above. Specifically the Manual does not have adequate policies for:

- a) Considering and documenting the pricing history of cost reimbursement contracts to determine if there is a basis to convert to a contract type with firmer pricing;
- b) Complying with the requirements of FAR 9.105-1 related to "Responsible Prospective Contractors" to include procedures to document the review to ensure the adequacy of prospective contractors' accounting systems prior to, or shortly after, making the award;
- c) Obtaining all contractors' applicable CAS disclosure statements as required by the FAR, and ensuring that they are audited and approved timely.
- d) Performing periodic validation of incurred costs on cost-reimbursement and other high risk contracts; and
- e) Obtaining and reviewing incurred cost submissions within the 6-month period following the expiration of each of the contractors' fiscal years.

In summary, NSF's contract funds may not have been adequately protected from waste, fraud, and mismanagement, especially for NSF's three advance payment contractors, representing FY 2009 obligations of \$270 million. The risk will continue to be high until NSF improves its cost surveillance procedures.

Recommendations:

Overall, NSF needs to reevaluate the effectiveness of its current Contracting Monitoring program to oversee and monitor its contract system, and redesign it to incorporate more comprehensive risk-based policies and procedures. The program must refocus its cost surveillance procedures on

cost reimbursement contracts, which are more susceptible to waste and abuse. This will likely require an evaluation of the adequacy of the contract department's current staffing levels and financial resources for contract audit and other oversight needs. This refocus may also require a reprioritization of staff responsibilities within the contract department.

We specifically recommend that NSF management focus its efforts in the following areas:

1. Incurring Cost Audits and Expenditure Reviews

- a) Obtain all contractors' CAS disclosure statements as required by FAR 52.230-2 "Cost Accounting Standards" and FAR 52.230-6 "Administration of Cost Accounting Standards" and ensure that they are audited and approved timely. Such CAS disclosure statements must cover the proper business unit(s) of the contractor entity.
- b) Continue the Quarterly Expenditure Report (QER) review program, but reevaluate the scope of the review (i.e. Opinion report vs. Agreed-Upon Procedures report) based on risk of cost error in the contract.
- c) Depending on materiality and risk, obtain incurred cost audits for cost reimbursable type contracts to obtain assurance of the validity of costs billed to NSF.
- d) Immediately obtain cost incurred audits on NSF's largest contractor for FY 2005 through FY 2009. If DCAA is unavailable, NSF should explore the feasibility of procuring the audit services from another audit organization.
- e) Continue to work on resolving the remaining audit findings relating to the FY 2000 – 2004 incurred cost audits for its largest contractor.

2. Oversight Procedures

- a) Fully document the rationale for contract type selection, including consideration of pricing history under cost-reimbursement contracts.
- b) Update the Contracting Manual, Section 4.4.8 "Responsible Prospective Contractors" to specify what review steps are required to determine if the contractor's accounting system has been deemed to be adequate within 4 years prior to the award process.
- c) Ensure that contractors that are subject to the allowable cost and payment clause submit cost incurred submissions within 6 months following the expiration of each of their fiscal years in accordance with the FAR and obtain audits of these submissions depending on materiality and risk.

3. Contracting Manual

- a) Revise the Contracting Manual to add procedures to address the issues noted above.
- b) Meet with the NSF OIG to evaluate the recommendations detailed in its reports and alert memos issued in the last two years, and agree upon those matters that require the most attention for updating the Contracts Manual.

EXHIBIT II

**NATIONAL SCIENCE FOUNDATION
MANAGEMENT'S RESPONSE TO FY 2009
INDEPENDENT AUDITOR'S REPORT
November 12, 2009**

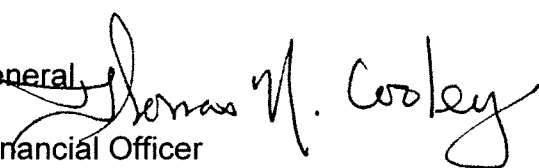
NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NOV 12 2009

To: Allison Lerner, Inspector General

From: Thomas N. Cooley, Chief Financial Officer

Subject: Management's Response to Independent Auditor's Report for Fiscal Year 2009



I welcome the National Science Foundation's (NSF) Audit Report for its Fiscal Year (FY) 2009 Financial Statements. For the twelfth consecutive year we have achieved an unqualified 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.

NSF concurs with the significant deficiency recommendations described in your report. The Foundation continued to make progress during FY 2009 in addressing financial management deficiencies in contract monitoring and more can and will be done. With your recommendations and the specific observations from the Government Accountability Office Report, corrective actions are either underway or will be in place to address the recommendations. Highlights of these actions include a detailed workforce analysis of the Contracts Division to assess staffing needs, roles and responsibilities; audits that will commence in FY 2010 of NSF's most high risk cost-reimbursement contracts; working with the Office of Inspector General (OIG) to evaluate issues in its written reports and memos; and improvements to the NSF Contracting Manual. NSF anticipates providing a detailed corrective action plan that highlights its activities to address these matters, by December 7, 2009.

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 OIG.

copies: Dr. Arden L. Bement, Jr.
Dr. Cora Marrett



National Science Foundation

FINANCIAL STATEMENTS
As of and for the periods ended
September 30, 2009 and 2008

National Science Foundation
Balance Sheet
As of September 30, 2009 and 2008
(Amounts in Thousands)

Assets	<u>2009</u>	<u>2008</u>
Intragovernmental Assets		
Fund Balance With Treasury (Note 2)	\$ 12,233,069	\$ 8,672,672
Accounts Receivable	11,996	11,928
Advances (Note 3)	19,187	15,284
Total Intragovernmental Assets	<u>12,264,252</u>	<u>8,699,884</u>
Cash and Other Monetary Assets	61,305	30,410
Accounts Receivable, Net	290	391
Advances (Note 3)	39,893	54,549
General Property, Plant and Equipment, Net (Notes 4 and 5)	261,389	269,794
Total Assets	<u>\$ 12,627,129</u>	<u>\$ 9,055,028</u>
Liabilities		
Intragovernmental Liabilities		
Advances From Others	\$ 44,380	\$ 97,260
Employer Contributions	1,454	1,270
FECA Employee Benefits	310	298
Other Intragovernmental Liabilities (Note 6)	3,000	3,050
Total Intragovernmental Liabilities	<u>49,144</u>	<u>101,878</u>
Accounts Payable	47,849	50,066
FECA Employee Benefits	1,319	1,198
Accrued Liabilities - Grants	370,857	339,652
Accrued Liabilities - Contracts and Payroll	35,486	46,779
Accrued Annual Leave	16,889	15,475
Total Liabilities	<u>\$ 521,544</u>	<u>\$ 555,048</u>
Commitments and Contingencies (Note 6)		
Net Position		
Unexpended Appropriations - Other Funds	\$ 11,439,991	\$ 7,813,135
Cumulative Results of Operations - Earmarked Funds (Note 8)	355,872	364,640
Cumulative Results of Operations - Other Funds	309,722	322,205
Total Net Position	<u>12,105,585</u>	<u>8,499,980</u>
Total Liabilities and Net Position	<u>\$ 12,627,129</u>	<u>\$ 9,055,028</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Net Cost
For the Years Ended September 30, 2009 and 2008
(Amounts in Thousands)

Program Costs	<u>2009</u>	<u>2008</u>
Research and Related Activities		
Gross Costs	\$ 5,014,818	\$ 4,835,276
Less: Earned Revenues	(100,934)	(99,471)
Net Research and Related Activities	<u>4,913,884</u>	<u>4,735,805</u>
Education and Human Resources		
Gross Costs	\$ 796,311	\$ 870,111
Less: Earned Revenues	(8,593)	(8,914)
Net Education and Human Resources	<u>787,718</u>	<u>861,197</u>
Major Research Equipment and Facilities Construction		
Gross Costs	\$ 146,683	\$ 232,158
Less: Earned Revenues	-	-
Net Major Research Equipment and Facilities Construction	<u>146,683</u>	<u>232,158</u>
Costs Not Assigned to Other Programs		
Gross Costs	\$ 154,095	\$ 115,647
Less: Earned Revenues	-	-
Net Costs Not Assigned to Other Programs	<u>154,095</u>	<u>115,647</u>
Net Cost of Operations (Note 9)	<u>\$ 6,002,380</u>	<u>\$ 5,944,807</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, 2009
(Amounts in Thousands)

	<u>2009</u>		
	<u>Earmarked</u>	<u>All Other</u>	<u>Total</u>
Cumulative Results of Operations			
Beginning Balances (Note 8)	\$ 364,640	322,205	686,845
Budgetary Financing Sources			
Appropriations Used	-	5,835,603	5,835,603
Non-exchange Revenue	-	567	567
Donations	-	46,857	46,857
Appropriated Earmarked Receipts Transferred In (Note 8)	88,657	-	88,657
Other Financing Sources			
Imputed Financing From Costs Absorbed By Others	-	10,149	10,149
Other	-	(704)	(704)
Total Financing Sources	88,657	5,892,472	5,981,129
Net Cost of Operations (Notes 8 and 9)	(97,425)	(5,904,955)	(6,002,380)
Cumulative Results of Operations (Note 8)	\$ 355,872	309,722	665,594
 Unexpended Appropriations			
Beginning Balances	\$ -	7,813,135	7,813,135
Budgetary Financing Sources			
Appropriations Received	-	9,492,400	9,492,400
Appropriations Transferred In / (Out)	-	3,214	3,214
Other Adjustments	-	(33,155)	(33,155)
Appropriations Used	-	(5,835,603)	(5,835,603)
Total Budgetary Financing Sources	-	3,626,856	3,626,856
Total Unexpended Appropriations	-	11,439,991	11,439,991
Net Position	\$ 355,872	11,749,713	12,105,585

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, 2008
(Amounts in Thousands)

	<u>2008</u>		
	<u>Earmarked</u>	<u>All Other</u>	<u>Total</u>
Cumulative Results of Operations			
Beginning Balances (Note 8)	\$ 334,664	288,641	623,305
Budgetary Financing Sources			
Appropriations Used	-	5,833,031	5,833,031
Non-exchange Revenue	-	509	509
Donations	-	61,495	61,495
Appropriated Earmarked Receipts Transferred In (Note 8)	104,430	-	104,430
Other Financing Sources			
Imputed Financing From Costs Absorbed By Others	-	9,048	9,048
Other	-	(166)	(166)
Total Financing Sources	104,430	5,903,917	6,008,347
Net Cost of Operations (Notes 8 and 9)	(74,454)	(5,870,353)	(5,944,807)
Cumulative Results of Operations (Note 8)	\$ 364,640	322,205	686,845
Unexpended Appropriations			
Beginning Balances	\$ -	7,587,271	7,587,271
Budgetary Financing Sources			
Appropriations Received	-	6,127,500	6,127,500
Appropriations Transferred In / (Out)	-	(2,240)	(2,240)
Other Adjustments	-	(66,365)	(66,365)
Appropriations Used	-	(5,833,031)	(5,833,031)
Total Budgetary Financing Sources	-	225,864	225,864
Total Unexpended Appropriations	-	7,813,135	7,813,135
Net Position	\$ 364,640	8,135,340	8,499,980

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, 2009 and 2008
(Amounts in Thousands)

Budgetary Resources	<u>2009</u>	<u>2008</u>
Unobligated Balance - Brought Forward, October 1	\$ 243,570	\$ 218,677
Recoveries of Prior Year Unpaid Obligations	62,113	59,168
Budget Authority		
Appropriation	9,628,481	6,293,934
Spending Authority From Offsetting Collections		
Earned		
Collected	109,561	121,234
Change in Receivables From Federal Sources	69	(12,634)
Change in Unfilled Customer Orders		
Advance Received	(52,881)	25,243
Without Advance From Federal Sources	<u>61,637</u>	<u>(31,520)</u>
Subtotal - Budget Authority	<u>9,746,867</u>	<u>6,396,257</u>
Nonexpenditure Transfers, Net - Anticipated and Actual	3,214	(2,240)
Permanently Not Available	(33,155)	(66,365)
Total Budgetary Resources (Note 13)	\$ <u><u>10,022,609</u></u>	\$ <u><u>6,605,497</u></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, 2009 and 2008
(Amounts in Thousands)

	<u>2009</u>	<u>2008</u>
Status of Budgetary Resources		
Obligations Incurred		
Direct (Note 12)	\$ 9,021,671	\$ 6,259,622
Reimbursable (Note 12)	119,273	102,305
Total Obligations Incurred (Note 13)	<u>9,140,944</u>	<u>6,361,927</u>
Unobligated Balance - Apportioned (Note 2)	787,497	157,926
Unobligated Balance - Not Available (Note 13)	94,168	85,644
Total Status of Budgetary Resources	\$ <u>10,022,609</u>	\$ <u>6,605,497</u>
Change in Obligated Balances		
Obligated Balance, Net		
Unpaid Obligations - Brought Forward, October 1	8,488,021	8,180,395
Less: Uncollected Customer Payments From Federal Sources - Brought Forward, October 1	(28,509)	(72,662)
Total Unpaid Obligated Balance, Net	<u>8,459,512</u>	<u>8,107,733</u>
Obligations Incurred	9,140,944	6,361,927
Less: Gross Outlays	(6,063,928)	(5,995,134)
Less: Recoveries of Prior Year Unpaid Obligations, Actual	(62,113)	(59,168)
Change in Uncollected Customer Payments From Federal Sources	(61,706)	44,154
Subtotal	<u>\$ 11,412,709</u>	<u>\$ 8,459,512</u>
Obligated Balance, Net - End of Period		
Unpaid Obligations	11,502,924	8,488,021
Less: Uncollected Customer Payments From Federal Sources	(90,215)	(28,509)
Total Unpaid Obligated Balance, Net - End of Period (Note 2)	<u>\$ 11,412,709</u>	<u>\$ 8,459,512</u>
Net Outlays		
Gross Outlays	6,063,928	5,995,134
Less: Offsetting Collections	(56,680)	(146,476)
Less: Distributed Offsetting Receipts	(2,091)	(1,038)
Net Outlays	\$ <u>6,005,157</u>	\$ <u>5,847,620</u>

The accompanying notes are an integral part of these statements.

NOTES TO THE PRINCIPAL FINANCIAL STATEMENTS
(Dollar 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 an ex officio member 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. 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. The accompanying financial statements also include budgetary accounting transactions that ensure 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 as well as 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 at the end of each fiscal year.

The Fiscal Year 2009 Omnibus Appropriations Act under Public Law 111-8 provided funding for each of NSF's appropriations. Additionally, on February 17, 2009, Congress passed the American Recovery and Reinvestment Act (ARRA) of 2009 under Public Law 111-5. Note 10 contains additional details on ARRA funding.

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 funds into the NSF Donations Account and to use both U.S. and foreign funds. In accordance with 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 in 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. General Property, Plant and Equipment (PP&E)

NSF capitalizes PP&E with costs exceeding \$25 and useful lives of two or more years; items 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 under the custodial responsibility of the prime NSF contractor for the program.

Costs incurred to construct buildings and structures are accumulated and tracked as construction in progress. At 75% completion of construction, an on-site 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 to the buildings, structures or equipment account 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
---------	--

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. Amortization is calculated using the straight-line half-year convention upon transfer from construction in progress. In fiscal year 2009, leasehold improvements completed during the year were amortized over four 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. Therefore, the cost of the Headquarter buildings is 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 (FFRDCs), 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 of the assets to these entities. NSF's authorizing legislation specifically prohibits the Foundation 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); 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." Very few entities disclose information on NSF titled property in their audited financial statements. Therefore, NSF has elected to disclose only the number of entities in possession of NSF owned property. Entities that separately present the book value of NSF titled property in their audited financial statements and all FFRDCs are listed in Note 5 along with the book value of the property held.

I. 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 1K, Accrued Liabilities - Grants. The amount to be allocated by Trading Partner is based on a percentage of reimbursable grant expenditures to total grant expenditures.

J. 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.

K. Accrued Liabilities – Grants

The total grant liabilities for the year are determined based on an estimate of prior quarter expenditures incurred and cash on hand held by the 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 a weighted average of three 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.

The American Recovery and Reinvestment Act (ARRA) grant accrual uses a similar methodology as the grant accrual described above. Fiscal year 2009 is the first year that ARRA funds were expended, and therefore no historical information exists. The methodology for calculating the accrual expenditure is based on the similarity of spending trends between the ARRA grants and standard grants. NSF has three appropriations that received ARRA funding for grants in fiscal year 2009. The current year accrual rates for the Research and Related Activities (R&RA) and Education and Human Resources (EHR) appropriations are determined based on the three year average of first year outlays for non-ARRA grants and cooperative agreements in those appropriations. The first year spending rates are prorated and applied to corresponding ARRA obligations by fund group and award type. Due to the late timing of the ARRA grant awards in 2009 for the Major Research Equipment and Facilities Construction (MREFC) appropriation, no expenditures will be recorded in MREFC until fiscal year 2010.

L. Accrued Liabilities – Contracts and Payroll

Accrued Liabilities - Contracts, Payroll, and Other consist of contract accruals, accrued payroll, and benefits. The total contracts liabilities for the year are determined based on an estimate of prior quarter expenditures incurred by the three contractors that are funded on an advance basis. 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 advances for the account. If the estimated accrual amount exceeds total advances, a liability is accrued for the excess. NSF's payroll services are provided by the Department of the Interior's National Business Center. Accrued payroll and benefits relate to services rendered by NSF employees, for which they are 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 Agency Operations and Award Management appropriations. Sick leave and other types of non-vested leave are expensed as taken.

M. 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 Agency Operations and Award Management appropriations will be used for DOL's estimated reimbursement.

N. 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 represent the net results of NSF's operations since the Foundation's inception.

O. Retirement Plan

In fiscal year 2009, approximately 18 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 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 at <http://www.opm.gov/retire/pubs/bals/2009/09-304.pdf> on the OPM Benefit Administration Website.

P. 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 (and the payment amounts can be reasonably estimated) 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.

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.

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. Of the amount originally questioned, \$28,190 remains unresolved. A corresponding receivable is not reflected in the balance sheet due to the uncertainty of NSF recovering any of these questioned costs.

Termination Claims: NSF engages organizations, including Federally Funded Research and Development Centers (FFRDCs), 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. Agreements with FFRDCs include a clause that commits NSF to seek appropriations for termination expenses, if necessary, in the event that an agreement is not renewed or is terminated.

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

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."

While NSF is not legally liable for environmental clean-up costs in the Antarctic, 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. Environmental clean-up projects started and completed during the year are reflected in NSF's financial statements as expenses for the current fiscal year. An estimated cost is accrued for approved projects that are anticipated to be performed after the fiscal year end or will take more than one fiscal year to complete.

Q. Use of Estimates

Management has made certain estimates and assumptions when reporting assets, liabilities, revenues, 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.

Note 2. Fund Balance With Treasury

Fund Balance With Treasury consisted of the following components as of September 30, 2009 and 2008:

(Amounts in Thousands)	2009			
	Appropriated Funds	Donated Funds	Earmarked Funds	Total
Obligated	\$ 11,060,235	\$ 44,414	\$ 308,060	\$ 11,412,709
Unobligated Available	702,435	34,647	50,415	787,497
Unobligated Unavailable	91,938	26	2,204	94,168
Less: Budgetary Non-FBWT	-	(61,305)	-	(61,305)
Total FBWT	\$ 11,854,608	\$ 17,782	\$ 360,679	\$ 12,233,069

(Amounts in Thousands)	2008			
	Appropriated Funds	Donated Funds	Earmarked Funds	Total
Obligated	\$ 8,104,439	\$ 37,853	\$ 317,220	\$ 8,459,512
Unobligated Available	66,934	44,028	46,964	157,926
Unobligated Unavailable	81,779	-	3,865	85,644
Less: Budgetary Non-FBWT	-	(30,410)	-	(30,410)
Total FBWT	\$ 8,253,152	\$ 51,471	\$ 368,049	\$ 8,672,672

The Donations Account includes amounts donated to NSF from all sources. Funds in the Donations Account may be used to further 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 \$61,200 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 and other unobligated expired funds that are unavailable for new obligations.

In fiscal year 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, 2009 and 2008, Intragovernmental Advances were \$19,187 and \$15,284 respectively.

Public

(Amounts in Thousands)	2009	2008
Advances to Grantees	\$ 26,699	\$ 54,549
Advances to Contractors	13,194	-
Total Advances to the Public	\$ 39,893	\$ 54,549

Note 4. General Property, Plant and Equipment, Net

The components of General Property, Plant and Equipment as of September 30, 2009 and 2008 were:

(Amounts in Thousands)	2009		
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 119,427	\$ (99,595)	\$ 19,832
Aircraft and Satellites	138,487	(138,487)	-
Buildings and Structures	278,208	(85,063)	193,145
Leasehold Improvements	7,173	(3,618)	3,555
Construction in Progress	26,326	-	26,326
Internal Use Software	7,091	(6,929)	162
Software in Development	18,369	-	18,369
Total PP&E	\$ 595,081	\$ (333,692)	\$ 261,389

(Amounts in Thousands)	2008		
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 117,839	\$ (94,592)	\$ 23,247
Aircraft and Satellites	138,487	(135,287)	3,200
Buildings and Structures	274,776	(76,848)	197,928
Leasehold Improvements	6,490	(2,580)	3,910
Construction in Progress	26,167	-	26,167
Internal Use Software	7,091	(6,447)	644
Software in Development	14,698	-	14,698
Total PP&E	\$ 585,548	\$ (315,754)	\$ 269,794

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

As explained in Note 1H, in the Assets Owned by NSF in the Custody of Other Entities section, 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 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.

At September 30, 2009, there were 28 colleges or universities, and 31 commercial entities that held property titled to NSF. None of the colleges or universities reported NSF titled property separately; however, one commercial entity, UNAVCO Inc., reported NSF titled property with a net book value of \$20,607.

The amount of PP&E owned by NSF but in the custody of an FFRDC is identified in the table below. In some cases, FFRDCs operate on a fiscal year end basis other than September 30. If NSF PP&E is not separately stated on the FFRDC's audited financial statements or the FFRDC is not audited, the related amounts are annotated as Not Available (N/A) in the table.

(Amounts in Thousands)

<u>Federally Funded Research and Development Centers</u>	<u>Amount</u>	<u>Fiscal Year Ending</u>
National Astronomy & Ionosphere Center (Cornell) - NAIC	\$ N/A	6/30
University Corporation for Atmospheric Research - UCAR	169,710	9/30
Association of Universities for Research in Astronomy, Inc. - AURA	N/A	9/30
National Radio Astronomy Observatory - AUI	N/A	9/30

Note 6. Other Intragovernmental Liabilities

The balance of Other Intragovernmental Liabilities is primarily made up of Contingent and Custodial Liabilities.

Contingent liabilities include environmental contingent liabilities. At September 30, 2009 and 2008, no funds were accrued for multi-year environmental clean-up projects in the Antarctic.

In fiscal year 2009, NSF had contractor claims of \$3,000 for compensation under a contract awarded by the United States Air Force (USAF) for the reconfiguration of three NSF owned LC130 aircraft. The \$3,000 was paid by the Department of Justice's Judgement Fund. While NSF maintains that the USAF is the party responsible for the claim, and is seeking a decision from the Department of Justice's legal counsel to that effect, NSF has requested \$3,000 in its fiscal year 2010 budget submission in a good faith effort to reimburse the Judgement Fund.

Note 7. Leases

NSF leases its Headquarter buildings under an operating lease with the GSA. The following is a schedule of future minimum lease payments for the Headquarter buildings. The current leases are active through fiscal year 2013. The small amount in fiscal year 2014 is the residual amortization.

(Amounts in Thousands)

Fiscal Year	Operating Lease Amount
2010	20,912
2011	21,242
2012	21,569
2013	20,269
2014	4,581
Total Minimum Lease Payments	\$ 88,573

In addition to the Headquarter buildings, NSF occupies common spaces with other federal agencies overseas through the State Departments International Cooperative Administrative Support Services (ICASS) system. NSF utilizes ICASS in Beijing, Paris, and Tokyo for residential and non-residential space. ICASS is a voluntary cost distribution system and the agreement to receive ICASS services is through an annual Memorandum of Understanding (MOU) between the NSF and the State Department. Additionally, NSF occupies residential space in Tokyo and office space in Denver, Colorado. The agreement to occupy space in Denver, Colorado is an annual MOU with the Department of Commerce and the lease to occupy residential space in Tokyo is a cancellable agreement between the United States Government and the lessor. All NSF leases are cancellable and/or for a period not more than a year.

Note 8. Earmarked Funds

In fiscal year 1999, Title IV of the American Competitiveness and Workforce Improvement Act of 1998 (P.L. 105-277) established an H-1B Nonimmigrant petitioner account in the General Fund of the U.S. Treasury. Funding is established from fees collected for alien, nonimmigrant 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 Nonimmigrant 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 a separate 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."

Notes to the Principal Financial Statements
September 30, 2009 and 2008 (Dollar Amounts in Thousands)

(Amounts in Thousands)	2009 Earmarked Funds	2008 Earmarked Funds
Balance Sheet as of September 30, 2009 and 2008		
Fund Balance with Treasury	\$ 360,679	\$ 368,049
Advances	403	631
Total Assets	<u>361,082</u>	<u>368,680</u>
Other Liabilities	5,210	4,040
Total Liabilities	<u>5,210</u>	<u>4,040</u>
Unexpended Appropriations	-	-
Cumulative Results of Operations	355,872	364,640
Total Liabilities and Net Position	<u>\$ 361,082</u>	<u>\$ 368,680</u>

Statement of Net Cost for the Years Ended September 30, 2009 and 2008

Program Costs	\$ 97,425	\$ 74,454
Less: Earned Revenues	-	-
Net Cost of Operations	<u>\$ 97,425</u>	<u>\$ 74,454</u>

Statement of Changes in Net Position For the Years Ended September 30, 2009 and 2008

Net Position Beginning of Period	\$ 364,640	\$ 334,664
Appropriated Earmarked Receipts Transferred In	88,657	104,430
Net Cost of Operation	(97,425)	(74,454)
Change in Net Position	<u>(8,768)</u>	<u>29,976</u>
Net Position End of Period	<u>\$ 355,872</u>	<u>\$ 364,640</u>

Note 9. 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. The Statement of Net Cost reflects the Foundation's strategic framework set forth in NSF's strategic plan, "Investing in America's Future: Strategic Plan FY 2006-2011."

The strategic goals outlined 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 (R&RA, EHR, and MREFC) 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 Agency Operations and Award Management (AOAM), National Science Board (NSB) and Office of Inspector General (OIG) appropriations. 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, 2009 and 2008, 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, 2009 and 2008, costs related to the Stewardship activities totaled \$332,623 and \$283,245, respectively. All Stewardship costs are prorated to the other three strategic goals based on the percentage that each Strategic Goal's expenditures account 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.

Notes to the Principal Financial Statements
September 30, 2009 and 2008 (Dollar Amounts in Thousands)

Intragovernmental and Public Costs and Earned Revenue by Strategic Goal

(Amounts in Thousands)	Federal	2009 Public	Total
Research and Related Activities			
Discovery	\$ 142,555	2,819,698	2,962,253
Learning	32,990	652,536	685,526
Research Infrastructure	65,787	1,301,252	1,367,039
Total Research and Related Activities	241,332	4,773,486	5,014,818
Less: Earned Revenue	(100,934)	-	(100,934)
Net Research and Related Activities	140,398	4,773,486	4,913,884
Education and Human Resources			
Discovery	\$ 4,018	466,363	470,381
Learning	930	107,926	108,856
Research Infrastructure	1,854	215,220	217,074
Total Education and Human Resources	6,802	789,509	796,311
Less: Earned Revenue	(8,593)	-	(8,593)
Net Education and Human Resources	(1,791)	789,509	787,718
Major Research Equipment and Facilities Construction			
Discovery	\$ 1,353	85,293	86,646
Learning	313	19,739	20,052
Research Infrastructure	624	39,361	39,985
Total Major Research Equipment and Facilities Construction	2,290	144,393	146,683
Less: Earned Revenue	-	-	-
Net Major Research Equipment and Facilities Construction	2,290	144,393	146,683
Costs Not Assigned To Other Programs			
Learning	\$ 353	101,675	102,028
Research Infrastructure	2	52,065	52,067
Total Costs Not Assigned To Other Programs	355	153,740	154,095
Less: Earned Revenue	-	-	-
Net Costs Not Assigned To Other Programs	355	153,740	154,095
Net Cost of Operations	\$ 141,252	5,861,128	6,002,380

Notes to the Principal Financial Statements
September 30, 2009 and 2008 (Dollar Amounts in Thousands)

(Amounts in Thousands)	Federal	2008 Public	Total
Research and Related Activities			
Discovery	\$ 155,978	2,621,404	2,777,382
Learning	40,162	674,975	715,137
Research Infrastructure	75,410	1,267,347	1,342,757
Total Research and Related Activities	271,550	4,563,726	4,835,276
Less: Earned Revenue	(99,471)	-	(99,471)
Net Research and Related Activities	172,079	4,563,726	4,735,805
Education and Human Resources			
Discovery	\$ 2,942	496,850	499,792
Learning	758	127,932	128,690
Research Infrastructure	1,422	240,207	241,629
Total Education and Human Resources	5,122	864,989	870,111
Less: Earned Revenue	(8,914)	-	(8,914)
Net Education and Human Resources	(3,792)	864,989	861,197
Major Research Equipment and Facilities Construction			
Discovery	\$ 4,350	129,002	133,352
Learning	1,120	33,216	34,336
Research Infrastructure	2,103	62,367	64,470
Total Major Research Equipment and Facilities Construction	7,573	224,585	232,158
Less: Earned Revenue	-	-	-
Net Major Research Equipment and Facilities Construction	7,573	224,585	232,158
Costs Not Assigned To Other Programs			
Learning	\$ 542	76,863	77,405
Research Infrastructure	-	38,242	38,242
Total Costs Not Assigned To Other Programs	542	115,105	115,647
Less: Earned Revenue	-	-	-
Net Costs Not Assigned To Other Programs	542	115,105	115,647
Net Cost of Operations	\$ 176,402	5,768,405	5,944,807

Note 10. American Recovery and Reinvestment Act (ARRA) of 2009

ARRA provided NSF with multi-year funding to the R&RA, EHR, MREFC, and OIG in the amount of \$3,002,000. ARRA funds are distributed directly to researchers and graduate students and are used for the development of advanced scientific tools and infrastructures that are available to the research community. As of September 30, 2009, ARRA funds in the amount of \$2,401,662 were obligated. For details on ARRA disbursements and reporting requirements, visit NSF's Recovery Act website at www.nsf.gov/recovery.

Note 11. Permanent Indefinite Appropriations

NSF maintains permanent indefinite appropriations for R&RA, MREFC, and EHR.

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 2009 and 2008 the permanent indefinite appropriations for R&RA were \$472,170 and \$444,010, respectively, and are reported as current year transfers from the annual R&RA appropriation. The MREFC appropriation supports the construction and procurement of unique national research platforms and major research equipment. In fiscal years 2009 and 2008, the permanent indefinite appropriations for MREFC were \$152,010 and \$220,740, respectively. The EHR appropriation is used to carry out science and engineering education and human resources programs and activities. In fiscal year 2009, the permanent indefinite appropriations for EHR were recorded as a current year transfer from the annual appropriation and amounted to \$55,000. NSF did not receive permanent indefinite appropriations for EHR in fiscal year 2008.

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 fiscal years 2009 and 2008, NSF's SF-132, "Apportionment and Reapportionment Schedule," apportions all obligations incurred under Category B which is by activity, project, or object. In fiscal years 2009 and 2008, direct obligations amounted to \$9,021,671 and \$6,259,622, respectively, and reimbursable obligations amounted to \$119,273 and \$102,305, 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 Statement of Budgetary Resources (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 fiscal year 2009 actual budgetary execution information has not yet been published. The President's Budget is scheduled for publication in the spring of Fiscal Year 2010 and can be found on the OMB web site: <http://www.whitehouse.gov/omb>.

Balances reported in the fiscal year 2008 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)	2008		
	Budgetary Resources	Obligations Incurred	Unobligated Balance - Unavailable
Combined Statement of Budgetary Resources	\$ 6,605,497	\$ 6,361,927	\$ 85,644
Budget of the U.S. Government	\$ 6,519,918	\$ 6,356,942	\$ 5,050
Difference	\$ 85,579	\$ 4,985	\$ 80,594

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, 2009 and 2008, amounted to \$11,106,372 and \$8,120,099, respectively.

Note 15. Related Party Transactions

The National Science Board (NSB) is a group of 24 members appointed by the President and confirmed by the Senate. Board Members are drawn from industry and universities. On September 30, 2009, there were 22 seated members and 2 vacancies. Members of the Board may be affiliated with institutions that are eligible to receive grants and awards from NSF. The Director of NSF is also a member of the NSB but does not receive any awards or grants from NSF. In accordance with GAAP reporting requirements, NSF identifies those transactions as Related Party Transactions and discloses the total awards for those transactions to the public.

Total new awards issued and the total outstanding balances for Related Party Transactions as of September 30 are as follows:

(Amounts in Thousands)	2009		2008	
New Awards and Modifications	\$	742,399	\$	523,575
Total Outstanding at September 30	\$	855,131	\$	604,846

Note 16. Reconciliation of Net Cost of Operations to Budget

(Amounts in Thousands)	2009	2008
Resources Used To Finance Activities		
Budgetary Resources Obligated		
Obligations Incurred	\$ 9,140,944	\$ 6,361,927
Less: Spending Authority from Offsetting Collections and Recoveries	(180,499)	(161,491)
Obligations Net of Offsetting Collections and Recoveries	8,960,445	6,200,436
Less: Offsetting Receipts	(2,091)	(1,038)
Net Obligations	8,958,354	6,199,398
Other Resources		
Imputed Financing	10,149	9,048
Other Resources	(704)	(166)
Net Other Resources Used to Finance Activities	9,445	8,882
Total Resources Used to Finance Activities	8,967,799	6,208,280
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	(2,977,516)	(256,022)
Resources that Fund Expenses Recognized in Prior Periods	44	(144)
Budgetary Offsetting Collections and Receipts that Do Not Affect Net Cost of Operations	2,091	1,038
Resources that Finance the Acquisition of Assets	(12,120)	(34,945)
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	(2,987,501)	(290,073)
Total Resources Used to Finance Net Cost of Operations	5,980,298	5,918,207
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	1,548	1,243
Total Components of Net Cost of Operations that will Require or Generate Resources in Future Periods	1,548	1,243
Components Not Requiring or Generating Resources		
Depreciation and Amortization	19,590	25,248
Other	944	109
Total Components of Net Cost of Operations that will not Require or Generate Resources	20,534	25,357
Total Components of Net Cost of Operations that Will Not Require or Generate Resources in the Current Period	22,082	26,600
Net Cost of Operations	\$ 6,002,380	\$ 5,944,807

Required Supplementary Stewardship Information
Stewardship Investments
For the Periods Ended September 30, 2009 and 2008

**Stewardship Investments
Research and Human Capital**

(Dollar Amounts in Thousands)

Research and Human Capital Activities

	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>
Basic Research	\$ 4,413,407	\$ 4,449,062	\$ 4,195,444	\$ 3,682,266	\$ 3,564,093
Applied Research	498,544	409,516	432,820	339,757	291,169
Education and Training	867,333	911,369	808,642	1,378,472	1,386,952
Non-Investing Activities	332,623	283,245	275,993	321,085	292,426
Total Research & Human Capital Activities	<u>\$ 6,111,907</u>	<u>\$ 6,053,192</u>	<u>\$ 5,712,899</u>	<u>\$ 5,721,580</u>	<u>\$ 5,534,640</u>

Inputs, Outputs and/or Outcomes

Research and Human Capital Activities

Investments In:

Universities	\$ 4,340,871	\$ 4,189,050	\$ 4,016,101	\$ 3,994,682	\$ 3,970,851
Industry	253,114	251,695	208,696	199,523	223,563
Federal Agencies	219,367	256,186	203,759	221,002	143,316
Small Business	209,343	224,793	220,602	218,334	193,199
Federally Funded R&D Centers	232,319	229,259	335,731	299,802	278,542
Non-Profit Organizations	381,882	444,236	421,775	428,648	418,209
Other	475,011	457,973	306,235	359,589	306,960
	<u>\$ 6,111,907</u>	<u>\$ 6,053,192</u>	<u>\$ 5,712,899</u>	<u>\$ 5,721,580</u>	<u>\$ 5,534,640</u>

Support To:

Scientists	\$ 695,389	\$ 512,147	\$ 496,431	\$ 473,457	\$ 454,053
Postdoctoral Programs	252,639	164,519	163,896	158,528	162,132
Graduate Students	933,063	615,621	585,308	544,513	538,233
	<u>\$ 1,881,091</u>	<u>\$ 1,292,287</u>	<u>\$ 1,245,635</u>	<u>\$ 1,176,498</u>	<u>\$ 1,154,418</u>

Outputs & Outcomes:

<u>Number of:</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>
Awards Actions	28,000	23,000	23,000	22,000	22,000
Senior Researchers	54,000	43,000	41,000	32,000	32,000
Other Professionals	15,000	12,000	13,000	11,000	12,000
Postdoctoral Associates	8,000	6,000	6,000	5,000	6,000
Graduate Students	54,000	37,000	35,000	26,000	27,000
Undergraduate Students	33,000	24,000	23,000	27,000	33,000
K-12 Students	14,000	13,000	11,000	8,000	11,000
K-12 Teachers	63,000	62,000	61,000	59,000	74,000

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 numbers of award actions are actual values from NSF's Enterprise Information System (EIS). The remaining outputs and outcomes are estimates of the total fiscal year 2009 amounts obtained annually from the NSF Directorates. These estimates 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.

Required Supplementary Information
Deferred Maintenance
For the Periods Ended September 30, 2009 and 2008

Deferred Maintenance
(Dollar 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 of the agency in an acceptable condition was deferred at the end of the period for fiscal years 2009 and 2008. 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, 2009, NSF determined that scheduled maintenance on 7 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 \$26. The items include light and heavy mobile equipment. All items are considered critical to NSF operations and are estimated to require \$89 in maintenance.

At September 30, 2008, NSF determined that scheduled maintenance on 14 items of Antarctic capital equipment in poor condition were not completed and were deferred or delayed for a future period. The largest dollar amount of deferred maintenance for any single item in poor condition approximated \$24. The items include light and heavy mobile and power distribution equipment, all of which is considered critical to NSF operations and estimated to require \$98 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, 2009 and 2008, as presented in the Statement of Budgetary Resources, is disaggregated for each of NSF's major budget accounts. For FY 2009, ARRA funds are shown in a separate schedule.

Omnibus Funds Combining Statement of Budgetary Resources (page 1 of 2)

		<u>2009</u> (Amounts in Thousands)					
		<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, AOAM, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Budgetary Resources							
Unobligated Balance - Brought Forward, October 1	\$	57,084	18,855	66,433	6,342	94,856	\$ 243,570
Recoveries of Prior Year Obligations		44,163	12,953	43	2,725	2,229	62,113
Budget Authority							
Appropriation		5,183,100	845,260	152,010	310,030	136,081	6,626,481
Spending Authority from Offsetting Collections							
Earned							
Collected		95,864	8,582	-	5,106	9	109,561
Change in Receivable from Federal Sources		37	(414)	-	446	-	69
Change in Unfilled Customer Orders							
Advance Received		(50,588)	(2,293)	-	-	-	(52,881)
Without Advance from Federal Sources		58,450	3,191	-	(4)	-	61,637
Anticipated for Rest of Year, Without Advances		-	-	-	-	-	-
Subtotal - Budget Authority		<u>5,286,863</u>	<u>854,326</u>	<u>152,010</u>	<u>315,578</u>	<u>136,090</u>	<u>6,744,867</u>
Nonexpenditure Transfers, Net -							
Anticipated and Actual		3,066	-	-	148	-	3,214
Permanantly Not Available		(20,857)	(9,296)	-	(3,002)	-	(33,155)
Total Budgetary Resources	\$	<u>5,370,319</u>	<u>876,838</u>	<u>218,486</u>	<u>321,791</u>	<u>233,175</u>	\$ <u>7,020,609</u>
Status of Budgetary Resources							
Obligations Incurred							
Direct	\$	5,154,513	847,670	160,756	311,187	145,883	\$ 6,620,009
Reimbursable		104,714	9,061	-	5,498	-	119,273
Total Obligations Incurred		<u>5,259,227</u>	<u>856,731</u>	<u>160,756</u>	<u>316,685</u>	<u>145,883</u>	<u>6,739,282</u>
Unobligated Balance - Apportioned		44,290	23	57,710	74	85,062	187,159
Unobligated Balance - Not Available		66,802	20,084	20	5,032	2,230	94,168
Total Status Of Budgetary Resources	\$	<u>5,370,319</u>	<u>876,838</u>	<u>218,486</u>	<u>321,791</u>	<u>233,175</u>	\$ <u>7,020,609</u>

Omnibus Funds Combining Statement of Budgetary Resources (page 2 of 2)

<u>2009</u>						
(Amounts in Thousands)						
	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, AOAM, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Change in Obligated Balances						
Obligated Balance, Net						
Unpaid Obligations - Brought forward, October 1	6,558,083	1,322,440	176,703	75,722	355,073	8,488,021
Less: Uncollected Customer Payments from Federal Sources Brought Forward, October 1	(22,973)	(5,266)	-	(270)	-	(28,509)
Total Unpaid Obligated Balance, Net	<u>6,535,110</u>	<u>1,317,174</u>	<u>176,703</u>	<u>75,452</u>	<u>355,073</u>	<u>8,459,512</u>
Obligations Incurred	5,259,228	856,732	160,755	316,683	145,884	6,739,282
Less: Gross Outlays	(4,670,507)	(758,299)	(149,314)	(312,731)	(146,253)	(6,037,104)
Less: Recoveries of Prior Year Unpaid Obligations, Actual	(44,163)	(12,953)	(43)	(2,725)	(2,229)	(62,113)
Change in Uncollected Customer Payments from Federal Sources	(58,487)	(2,777)	-	(442)	-	(61,706)
Subtotal	<u>\$ 7,021,181</u>	<u>1,399,877</u>	<u>188,101</u>	<u>76,237</u>	<u>352,475</u>	<u>\$ 9,037,871</u>
Obligated Balance, Net - End of Period						
Unpaid Obligations	7,102,642	1,407,920	188,101	76,948	352,475	9,128,086
Less: Uncollected Customer Payments from Federal Sources	(81,461)	(8,043)	-	(711)	-	(90,215)
Total Unpaid Obligated Balance, Net - End of Period	<u>\$ 7,021,181</u>	<u>1,399,877</u>	<u>188,101</u>	<u>76,237</u>	<u>352,475</u>	<u>\$ 9,037,871</u>
Net Outlays						
Gross Outlays	4,670,507	758,299	149,314	312,731	146,253	6,037,104
Less: Offsetting Collections	(45,276)	(6,289)	-	(5,106)	(9)	(56,680)
Less: Distributed Offsetting Receipts	-	-	-	-	(2,091)	(2,091)
Net Outlays	<u>\$ 4,625,231</u>	<u>752,010</u>	<u>149,314</u>	<u>307,625</u>	<u>144,153</u>	<u>\$ 5,978,333</u>

ARRA Funds Combining Statement of Budgetary Resources (page 1 of 2)

2009
(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG</u>	<u>Total</u>
Budgetary Resources					
Unobligated Balance - Brought Forward, October 1	\$ -	-	-	-	\$ -
Recoveries of Prior Year Obligations	-	-	-	-	-
Budget Authority					
Appropriation	2,500,000	100,000	400,000	2,000	3,002,000
Spending Authority from Offsetting Collections					
Earned					
Collected	-	-	-	-	-
Change in Receivable from Federal Sources	-	-	-	-	-
Change in Unfilled Customer Orders					
Advance Received	-	-	-	-	-
Without Advance from Federal Sources	-	-	-	-	-
Anticipated for Rest of Year, Without Advances	-	-	-	-	-
Subtotal - Budget Authority	<u>2,500,000</u>	<u>100,000</u>	<u>400,000</u>	<u>2,000</u>	<u>3,002,000</u>
Nonexpenditure Transfers, Net -					
Anticipated and Actual	-	-	-	-	-
Permanantly Not Available	-	-	-	-	-
Total Budgetary Resources	\$ <u>2,500,000</u>	<u>100,000</u>	<u>400,000</u>	<u>2,000</u>	\$ <u>3,002,000</u>
Status of Budgetary Resources					
Obligations Incurred					
Direct	\$ 2,062,644	85,000	254,000	18	\$ 2,401,662
Reimbursable	-	-	-	-	-
Total Obligations Incurred	<u>2,062,644</u>	<u>85,000</u>	<u>254,000</u>	<u>18</u>	<u>2,401,662</u>
Unobligated Balance - Apportioned	437,356	15,000	146,000	1,982	600,338
Unobligated Balance - Not Available	-	-	-	-	-
Total Status Of Budgetary Resources	\$ <u>2,500,000</u>	<u>100,000</u>	<u>400,000</u>	<u>2,000</u>	\$ <u>3,002,000</u>

ARRA Funds Combining Statement of Budgetary Resources (page 2 of 2)

2009
(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG</u>	<u>Total</u>
Change in Obligated Balances					
Obligated Balance, Net					
Unpaid Obligations - Brought forward, October 1	-	-	-	-	-
Less: Uncollected Customer Payments from Federal Sources Brought Forward, October 1	-	-	-	-	-
Total Unpaid Obligated Balance, Net	-	-	-	-	-
Obligations Incurred	2,062,644	85,000	254,000	18	2,401,662
Less: Gross Outlays	(26,784)	(23)	-	(17)	(26,824)
Less: Recoveries of Prior Year Unpaid Obligations, Actual	-	-	-	-	-
Change in Uncollected Customer Payments from Federal Sources	-	-	-	-	-
Subtotal	\$ 2,035,860	84,977	254,000	1	\$ 2,374,838
Obligated Balance, Net - End of Period					
Unpaid Obligations	2,035,860	84,977	254,000	1	2,374,838
Less: Uncollected Customer Payments from Federal Sources	-	-	-	-	-
Total Unpaid Obligated Balance, Net - End of Period	\$ 2,035,860	84,977	254,000	1	\$ 2,374,838
Net Outlays					
Gross Outlays	26,784	23	-	17	26,824
Less: Offsetting Collections	-	-	-	-	-
Less: Distributed Offsetting Receipts	-	-	-	-	-
Net Outlays	\$ 26,784	23	-	17	\$ 26,824

Omnibus Funds Combining Statement of Budgetary Resources (page 1 of 2)

2008
(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, AOAM, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Budgetary Resources						
Unobligated Balance - Brought Forward, October 1	\$ 70,495	18,937	27,600	6,897	94,748	\$ 218,677
Recoveries of Prior Year Obligations	37,741	13,375	214	3,571	4,267	59,168
Budget Authority						
Appropriation	4,843,974	765,600	220,740	297,186	166,434	6,293,934
Spending Authority from Offsetting Collections:						
Earned						
Collected	107,856	8,102	-	5,274	2	121,234
Change in Receivable from Federal Sources	(12,568)	448	-	(514)	-	(12,634)
Change in Unfilled Customer Orders						
Advance Received	20,017	5,176	-	50	-	25,243
Without Advance from Federal Sources	(27,024)	(4,528)	-	32	-	(31,520)
Anticipated for Rest of Year, Without Advance	-	-	-	-	-	-
Subtotal - Budget Authority	<u>4,932,255</u>	<u>774,798</u>	<u>220,740</u>	<u>302,028</u>	<u>166,436</u>	<u>6,396,257</u>
Nonexpenditure Transfers, Net -						
Anticipated and Actual	(2,240)	-	-	-	-	(2,240)
Permanently Not Available	(36,665)	(11,578)	(15,275)	(2,847)	-	(66,365)
Total Budgetary Resources	\$ <u>5,001,586</u>	<u>795,532</u>	<u>233,279</u>	<u>309,649</u>	<u>265,451</u>	\$ <u>6,605,497</u>
Status of Budgetary Resources						
Obligations Incurred						
Direct	\$ 4,856,135	767,446	166,846	298,600	170,595	\$ 6,259,622
Reimbursable	88,367	9,231	-	4,707	-	102,305
Total Obligations Incurred	<u>4,944,502</u>	<u>776,677</u>	<u>166,846</u>	<u>303,307</u>	<u>170,595</u>	<u>6,361,927</u>
Unobligated Balance - Apportioned	133	6	66,398	398	90,991	157,926
Unobligated Balance - Not Available	56,951	18,849	35	5,944	3,865	85,644
Total Status of Budgetary Resources	\$ <u>5,001,586</u>	<u>795,532</u>	<u>233,279</u>	<u>309,649</u>	<u>265,451</u>	\$ <u>6,605,497</u>

Omnibus Funds Combining Statement of Budgetary Resources (page 2 of 2)

	2008					
	(Amounts in Thousands)					
	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG, AOAM, and NSB</u>	<u>Special and Donated</u>	<u>Total</u>
Change in Obligated Balances						
Obligated Balance, Net						
Unpaid Obligations - Brought forward, October 1	6,204,685	1,398,516	222,241	56,757	298,196	8,180,395
Less: Uncollected Customer Payments from Federal Sources Brought Forward, October 1	(62,564)	(9,346)	-	(752)	-	(72,662)
Total Unpaid Obligated Balance, Net	<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>
Obligations Incurred	4,944,505	776,677	166,845	303,305	170,595	6,361,927
Less: Gross Outlays	(4,553,367)	(839,378)	(212,169)	(280,769)	(109,451)	(5,995,134)
Less: Recoveries of Prior Year Unpaid Obligations, Actual	(37,741)	(13,375)	(214)	(3,571)	(4,267)	(59,168)
Change in Uncollected Customer Payments from Federal Sources	39,592	4,080	-	482	-	44,154
Subtotal	<u>\$ 6,535,110</u>	<u>1,317,174</u>	<u>176,703</u>	<u>75,452</u>	<u>355,073</u>	<u>\$ 8,459,512</u>
Obligated Balance, Net - End of Period						
Unpaid Obligations	6,558,083	1,322,440	176,703	75,722	355,073	8,488,021
Less: Uncollected Customer Payments from Federal Sources	(22,973)	(5,266)	-	(270)	-	(28,509)
Total Unpaid Obligated Balance, Net - End of Period	<u>\$ 6,535,110</u>	<u>1,317,174</u>	<u>176,703</u>	<u>75,452</u>	<u>355,073</u>	<u>\$ 8,459,512</u>
Net Outlays						
Gross Outlays	4,553,367	839,378	212,169	280,769	109,451	5,995,134
Less: Offsetting Collections	(127,873)	(13,278)	-	(5,323)	(2)	(146,476)
Less: Distributed Offsetting Receipts	-	-	-	-	(1,038)	(1,038)
Net Outlays	<u>\$ 4,425,494</u>	<u>826,100</u>	<u>212,169</u>	<u>275,446</u>	<u>108,411</u>	<u>\$ 5,847,620</u>

OTHER FINANCIAL REPORTING INFORMATION

Debt Collection Improvement Act of 1996

Net Accounts Receivable totaled \$12,286 thousand at September 30, 2009. Of that amount, \$11,996 thousand is due from other federal agencies. The remaining \$290 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 2009, 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 2009.

CHAPTER 3: APPENDICES

APPENDIX 1: 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	0	-	-	-	0

Table 2.
Summary of Management Assurances

Effectiveness of Internal Control over Financial Reporting (FMFIA § 2)					
Statement of Assurance	Unqualified				
	Beginning Balance	New	Resolved	Consolidated	Ending Balance
<i>Total Material Weaknesses</i>	0	-	-	-	0

Effectiveness of Internal Control over Operations (FMFIA § 2)					
Statement of Assurance	Unqualified				
	Beginning Balance	New	Resolved	Consolidated	Ending Balance
<i>Total Material Weaknesses</i>	0	-	-	-	0

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
<i>Total Non-Conformances</i>	0	-	-	-	0

Compliance with Federal Financial Management Improvement Act (FFMIA)		
	Agency	Auditor
Overall Substantial Compliance	Yes	Yes
1. System Requirements	Yes	
2. Accounting Standards	Yes	
3. US Standard General Ledger at Transaction level	Yes	

NATIONAL SCIENCE FOUNDATION
FY 2009 IMPROPER PAYMENTS INFORMATION ACT REPORTING DETAILS

- I. Describe your agency’s risk assessment(s), performed subsequent to compiling your full program inventory. List the risk-susceptible programs (i.e., programs that have a significant risk of improper payments based on OMB guidance thresholds) identified through your risk assessments. Be sure to include the programs previously identified in the former Section 57 of OMB Circular A-11.**

NSF’s risk assessment program applies to all award programs and activities that the National Science Foundation (NSF) funds through our Research & Related Activities (R&RA) and Education and Human Resources (EHR) appropriations. “Research and Education Grants and Cooperative Agreements” identified in the former Section 57 of Office of Management and Budget (OMB) Circular A-11 is included in these appropriations.

Risk Assessment and Asset Management

NSF has conducted a review of expenditure data and grant payments related to the Federal Cash Transactions Report (FCTR), in accordance with guidance issued in August 10, 2006, OMB memorandum M-06-23, *Appendix C to OMB Circular A-123*, which updated the Improper Payments Information Act of 2002 (IPIA). OMB guidance requires agencies to report on programs or activities with estimated improper payments exceeding \$10 million or 2.5 % of total outlays and then detail actions the agency is taking to reduce these payments. Under OMB Memorandum 03-13 dated May 21, 2003, OMB further defined “An erroneous or improper payment includes any payment that was made to an ineligible recipient or for an ineligible service.”

NSF contracted with McBride, Lock & Associates, Certified Public Accountants, to conduct a statistical review of NSF Federal Financial Report (FFR) and FCTR transactions that are received from grant recipients. Management Analysis, Incorporated (MAI) conducted the statistical sample determination under a subcontract agreement with McBride, Lock & Associates. Since there is a large quantity of FFR/FCTR transactions received each year the use of statistical sampling was applied in order to review FFR/FCTR transactions randomly to determine the degree of error in payments to grantees.

The ultimate purpose of the sampling was for NSF to comply with P.L. 107-300 requirements for agencies to estimate the value of improper payments to their grantees. This will help enhance the NSF extensive post award-monitoring program by initiating reviews of FFR/FCTR expenditures. These activities help assure the accountability of taxpayer dollars.

II. Describe the statistical sampling process conducted to estimate the improper payment rate for each program identified.

In accordance with the OMB guidance and formula, the Sampling Team analyzed NSF FFR/FCTR transaction data. FFR/FCTR transaction data analyzed was selected randomly from the entire Universe based upon the NSF approved sampling plan.

The Sampling Team sampled the FFR/FCTR Universe comprised of all FFR/FCTR transactions from the quarter ending December 31, 2007 through the quarter ending September 30, 2008 as the statistical population for review. The total statistical population encompassed each of the quarterly transactions for the respective grantee.

SAMPLE SIZE DETERMINATION

Sample size was determined in accordance with the Implementation Guidance for IPIA, PL 107-300, and specifically in the cited reference (Sampling of Populations: Methods and Applications, Levy and Lemeshow, 1999). The number of FFR/FCTR awards to be reviewed was calculated as:

$$n \geq (2.706*(1-P)) / ((.025/P)^2 * P)$$

The formula provides “n” that is the minimum sample size and “P” is the estimated percentage of erroneous payments. This equation is then based on a 90% confidence interval of plus or minus 2.5% (or 0.025) around the estimate of the percentage of erroneous payments.

The total Awards, with each of their quarterly submissions, are included in the Universe for the sample determination. Using the above formula applied to the standards in Table 1 the minimum number of samples to be reviewed are as follows:

<u>Sample Type</u>	<u>Total Universe Represented</u>	<u>% From Calculation</u>	<u>Minimum Sample to be Reviewed</u>
Improper Payments	161,692	0.077925%	126
Dollar Value Represented	\$ 4,645,429,941	0.077925%	\$ 361,995

The sample sizes determined by the above formula were also evaluated by MAI using other recognized equations and tables and found to be a reasonable level for sampling. However, it was recognized that the number of samples evaluated and fully reviewed must meet the minimum sample size, not just the samples pulled. As such, additional samples were pulled to ensure that the final amount was sufficient.

ACTUAL SAMPLE DETERMINATION

Samples were determined from the database using the MAI developed algorithm using random number generation that selected at random the specified number of Grant Award identifications and then randomly selected the quarter for which to be evaluated.

During the initial reviews of the data, it was determined that the data included significant zero entries for quarterly periods that were preceding the Grant Award effective date. For FY 2008, there are a total of 39,467 zero entries or 24.4% of the total FFR/FCTR transactions. Under the NSF General Grant Terms and Conditions, grant recipients can incur pre-award costs up to 90 days prior to the effective date of the award at their own risk. Therefore, NSF determined that transaction amounts other than zero with dates prior to the award effective date are valid transactions. NSF determined that zero entries for dates prior to the effective date of the awards represent invalid zero transaction amounts for sampling purposes, because incurring pre-award costs is an option for the grant recipients. This makes a zero amount for pre-award periods the standard for the vast majority of NSF grants. Since the entries may be non-applicable to the evaluation, they were identified in the sample list and annotated as not to be sampled nor counted in the sample number.

NSF determined that zero entries for quarterly periods during the performance period of the award were valid entries and were included in the final sample. Additional zero entries present in quarters that follow final payments of closed out awards were also not included in the final sample. OMB agreed with NSF's approach for handling zero entries. All samples identified to not be sampled were confirmed by NSF.

SELECTED TRANSACTION SUPPORTING DOCUMENTATION

Letters and electronic communication were sent to each grantee with the instructions to provide supporting documentation for one of their specific transactions included in the FFR/FCTR transaction list. The information received was then reviewed in accordance with applicable cost principles.

Reviews included, but were not limited to the following:

- Does the cost represent expressly unallowable cost as cited in the Cost Principles, Grant Policy Manual, and award terms and conditions?
- Is this a duplicative payment?
- Were the services or products provided?
- Were the costs incurred during the period of performance?
- Does the payment agree with the terms of sub-award agreement?
- Was there adequate documentation?

III. Explain the corrective actions your agency plans to implement to reduce the estimated rate of improper payments. Include in this discussion what is seen as the cause(s) of errors and the corresponding steps necessary to prevent future occurrences. If efforts are already underway, and/or have been ongoing for some length of time, it is appropriate to include that information in this section.

Even though NSF did not meet the thresholds for significant improper payments, the agency will continue its robust risk-based post-award monitoring program which reviews for improper payments.

IV. Improper Payment Reduction Outlook FY 2004 – FY 2012

(\$ in millions)

	2004			2005			2009		
Program	Outlays	IP%	IP \$	Outlays	IP%	IP \$	Outlays	IP%	IP \$
R&RA and EHR	\$4,742	.093%	\$4.4	\$4,215	.025%	\$4.4	\$4,645	.00	\$0.0

	2010			2011			2012		
Program	Outlays	IP%	IP \$	Outlays	IP%	IP \$	Outlays	IP%	IP \$
R&RA and EHR	\$5,489	.04%	\$2.2	\$5,646	.04%	2.5	\$6,131	.04%	\$2.5

Note: From FY 2006 through FY 2008, NSF received relief from the annual IPIA reporting due to the very low improper payment rates reported in its FYs 2004 and 2005 Performance and Accountability Reports.

McBride, Lock & Associates reviewed each of the individual sub-transactions representing the FFR/FCTR. The results of their review were presented to MAI for analysis against the initial requirements. The initial review determined that the minimum number of samples audited was met to ensure that the results would be statistically sufficient. The first 126 samples (priority ordered) received and audited were used in the statistical evaluation to meet the minimum requirement. The FFR/FCTR total sample dollar amount was checked to ensure that the minimum sample dollar amount had also been met. The calculated error rate was determined based upon those sub-transaction FFR/FCTR that had errors against the total of sub-transactions sampled both in dollars and numbers. The error rate was then used to extrapolate the values to the FFR/FCTR sample total and then to the Universe.

The results indicate that the occurrence of improper payments is well below the significant standard of improper payments defined as a total of improper payments exceeding \$10 million and 2.5% of the total outlays as outlined by OMB Guidance.

V. Discuss your agency’s Recovery Auditing effort, if applicable, including the amount of recoveries expected, the actions taken to recover them, and the business process changes and internal controls instituted and/or strengthened to prevent further occurrences. (This reporting replaces the original legislative requirement for reporting not later than 12/31/04.)

Not applicable for NSF’s program of Research and Education Grants and Cooperative agreements.

VI. Describe the steps the agency has taken and plans to take (including time line) to ensure that agency managers (including the agency head) are held accountable for reducing and recovering improper payments.

NSF will continue its grant expenditure sampling process for improper payments and its internal risk based approach as part of an integrated and comprehensive grant monitoring program strategy. This strategy coupled with strong financial management controls will assist NSF to ensure that taxpayer dollars are spent wisely and efficiently.

VII. A. Describe whether the agency has the information systems and other infrastructure it needs to reduce improper payments to the levels the agency has targeted.

As stated in Section IV above, results indicate that the occurrence of improper payments is well below the significant standard of improper payments defined as a total of improper payments exceeding \$10 million and 2.5% of the total outlays as outlined by OMB Guidance. NSF will continue using its end-to-end award information systems and infrastructure, while evaluating future grant and core financial needs.

B. If the agency does not have such systems and infrastructure, describe the resources the agency requested in its FY 2005 budget submission to Congress to obtain the necessary information systems and infrastructure.

Not applicable.

VIII. A description of any statutory or regulatory barriers that may limit the agencies' corrective actions in reducing improper payments.

None currently identified.

IX. Additional comments, if any, on overall agency efforts, specific programs, best practices, or common challenges identified, as a result of IPIA implementation.

None.



National Science Foundation • 4201 Wilson Boulevard • Arlington, Virginia 22230
Office of the Inspector General

October 16, 2009

MEMORANDUM

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

Dr. Arden Bement
Director, National Science Foundation

From: Allison Lerner *Allison C. Lerner*
Inspector General, National Science Foundation

Subject: Management Challenges for NSF in FY 2010

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, including the Government Accountability Office and NSF’s various advisory committees, contractors, and staff.

This year we have taken a fresh look at the challenges that NSF faces and have focused on six issue areas that reflect fundamental program risk, and are likely to require management’s attention for years to come. They include:

- Ensuring Proper Stewardship of Recovery Act Funds
- Improving Grant Administration
- Strengthening Contract Administration
- Becoming a Model Agency for Human Capital Management
- Encouraging Ethical Conduct of Research
- Effectively Managing Large Facilities and Instruments

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

CHALLENGE: Ensuring Proper Stewardship of ARRA Funds

Overview: The American Recovery and Reinvestment Act (ARRA), enacted in February 2009 is intended to create and save jobs through investments for long-term economic growth. ARRA provided an additional \$3 billion for the National Science Foundation (NSF) in its three core appropriations accounts: Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction (MREFC). The Act also instituted reporting requirements intended to ensure transparency and accountability. The OIG received an additional \$2 million to conduct oversight of the use of these funds.

Challenge for the Agency: It will be a challenge for NSF to spend its ARRA funds expeditiously while ensuring accountability and that the twin goals of reinvestment and recovery are met. We have identified a number of risk areas that represent challenges to NSF in spending ARRA funds in accordance with the law’s objectives while meeting increased reporting requirements and greater transparency. Following are examples of some of these challenges:

- Determining in advance that awards are appropriate for stimulus funding
- Making and monitoring ARRA awards, especially ones made to high-risk institutions
- Meeting the law’s requirements for greater transparency by providing all required information on the Recovery.gov website
- Promoting timely, complete, and accurate reporting by awardees

Another major challenge for NSF is the area of job creation and retention. While it is clear how NSF will meet the Act’s goal of reinvestment, it is less clear how the agency will promote the goal of economic recovery. The agency has not fully identified how NSF will address this key goal, and in particular the number of jobs created and/or retained in its ARRA-related metrics. While it is difficult to measure the economic benefits produced by basic research, stakeholders expect NSF to be able to provide information on the number of jobs created. Last spring, OIG presented NSF with an assessment of stakeholder expectations for meeting its ARRA goals.

Further, the agency’s allocation of \$200 million of ARRA funds in support of the Academic Research Infrastructure Program, a program NSF has not been involved with for some time, poses a challenge. We believe that this program presents the same types of risk to NSF as a newly established program. In addition, \$400 million of the ARRA funds are for MREFC projects. We have consistently identified these large, complex infrastructure projects as more challenging for NSF.

OIG’s Assessment of the Agency’s Progress: NSF has taken important steps to address the challenges posed by the increased demands of ARRA. For example, NSF quickly developed programs to make awards, established methodology and put out implementing policies and procedures that include new award terms and conditions specific to ARRA

awards. Generally, NSF is dealing well with ARRA’s funding and reporting challenges and has stated that it will focus attention on risky programs.

At the agency’s invitation, the OIG is participating in a number of teams created to grapple with issues related to ARRA implementation through which we are able to learn about the requirements associated with ARRA funds, and hear first-hand about how NSF is administering the funds. Our participation in these activities enables us to raise issues for NSF’s consideration at an early stage in the process. In those meetings and in periodic reports to the agency, we have provided NSF with our assessment of key challenges such as potentially risky programs and awardees, and the agency has been responsive to the concerns we have raised.

CHALLENGE: Improving Grant Administration

Overview: Close monitoring and management attention from the pre-award stage through grant closeout is essential for effective grant management. The American Recovery and Reinvestment Act increases the need for effective grant management, as it will require NSF to manage an unprecedented influx of funds and resulting awards while meeting economic stimulus objectives and responding to increased reporting requirements .

An effective pre-award framework should include an assessment of financial risk to help ensure that potential awardees possess the financial capability to successfully perform under the award. Large dollar and complex awards may be more difficult to administer and may require more oversight. Pre-award financial reviews are also particularly important for new awardee institutions that may lack experience in handling government funds.

An effective post-award framework should integrate oversight of both financial and programmatic issues to ensure that awardees comply with terms, conditions, and regulations; achieve expected progress toward accomplishing project goals; and file accurate financial reports as required.

Awardees that pass through federal funds to subrecipients are required to monitor them by reviewing financial and performance reports, conducting site visits, and ensuring that subrecipients have adequate financial systems to properly manage the funds. Adequate controls over subrecipient monitoring are an important safeguard to ensure funds are spent properly.

NSF also needs to ensure that it takes action on known problems identified by OIG and Single Audits. NSF has a responsibility to follow up to correct internal control weaknesses to ensure that corrective actions are taken. Our recent review found that NSF lacks policies to do this.

Challenge for the Agency: Since 2002, we have recommended that NSF strengthen its post-award administration policies and practices. Over the past several years, NSF has improved its monitoring of financial performance, but refinements are needed to its

processes for: documenting site visit reviews, ensuring cost sharing requirements are met, and approving payments for grantees known for having prior problems.

A continuing challenge for the agency is to improve monitoring of program performance. This is particularly important in light of the additional awards made with ARRA funding. To integrate the monitoring of both program and administrative performance, NSF needs to improve communication between staff engaged in program and financial oversight.

Our audit work continues to document deficiencies in subrecipient oversight. Specifically, in four audits completed in March 2009 of non-profit organizations with more than \$14 million of subawards, we found a consistent pattern of inadequate subrecipient oversight. One of the four audits that focused on costs claimed by a nonprofit organization that was established to provide cooperative research and development opportunities to scientists and engineers in the independent states of the former Soviet Union found significant internal control weaknesses in the process for overseeing hundreds of foreign subrecipients. As a result, there was an increased risk of fraud and of unallowable costs being charged to the NSF awards. Without appropriate oversight of subrecipient spending, NSF risks paying substantial subaward costs absent adequate assurance that these payments are permissible.

OIG’s Assessment of the Agency’s Progress: NSF has reported that it has taken a number of steps during the past year to improve grants administration. For example, the agency states that it has assessed the business performance of 30 percent of awardees administering 94 percent of NSF funds through advanced monitoring, including 30 site visits and 159 desk reviews. In addition, NSF has updated its *Proposal and Award Policies and Procedures Guide* and its *Proposal and Award Manual*. The agency states that it is planning to modify: grant conditions to require principal investigators to submit a new type of final report on project outcomes; and the research.gov website to include the capability of principal investigators to report at the end of the project on project outcomes.

CHALLENGE: Strengthening Contract Administration

Overview: NSF’s financial statement auditors recommended a number of improvements to NSF’s contract monitoring process in the management letter for the FY 2008 financial statement audit. The auditors have warned that if the problems persist, management cannot ensure the reasonableness and accuracy of costs incurred on high risk contracts, which amounted to \$205 million for FY 2008.

Effective contract administration is particularly important since NSF is in the midst of choosing a contractor to provide logistical support for the U.S. Antarctic Program over the next 13.5 years. The current contract, which is NSF’s largest valued at \$1.2 billion over 10 years, was scheduled to expire in March of 2010 but has been extended for one year.

Challenge for the Agency: The transition to a new USAP contract will severely test NSF’s contract administration practices. The immediate challenge is to administer an effective and successful procurement process that results in the selection of a contactor that can meet the USAP’s diverse needs while providing value to the government. The process should assure that: all offerors receive the same information and opportunities, their proposals are carefully analyzed and compared, and critical information is verified. The closeout of the existing USAP contract will also pose a challenge, as NSF must resolve issues involving the contactor’s accounting practices and subrecipient oversight that have lingered since 2000-2004, as well as obtain audits of incurred costs for later contract years. Auditors have identified specific areas needing improvement including the closeout of contracts, and reviews of incurred costs and contract expenditures.

The long-term challenge for NSF is to continue to strengthen its contract monitoring efforts once the new USAP contract is executed. In addition, in July OMB issued new guidance to strengthen and improve acquisition practices that calls on NSF and other federal agencies to achieve a number of ambitious goals. The challenges represented by the USAP contract transition, the need to correct NSF’s existing contact administration deficiencies, and meeting the heightened expectations of the administration, are formidable and will require management’s attention for years to come.

OIG’s Assessment of Agency’s Progress: During the past year, NSF developed and issued the Antarctic Support Contract solicitation and began evaluating proposals it received. OIG has offered advice to the agency on key areas of the cost proposals that should be verified through audits, including indirect and overhead rates and the adequacy of offerors’ business systems and cost accounting practices.

The agency has advised us that due to a delay in evaluating proposals it plans to extend the current contract for one year. But NSF needs to obtain an audit of the contractor’s disclosure statement, as well as the cost proposal for the extension, to complete the negotiations. The agency will also need audits of more recent contract costs incurred since 2004 before it can close out the contract. Meanwhile, a hiring freeze imposed by the agency earlier this year has prevented the Contracting Office from replacing departing personnel. Reductions in the number of acquisition staff during this critical period are a cause of concern and may impede NSF’s progress in surmounting these challenges.

CHALLENGE: Becoming a Model Agency for Human Capital Management

Overview: Workforce planning and other issues such as the use of visiting scientists or “rotators”, the development of management succession plans, and delays in the process of recruiting and hiring, have long been identified by OIG as management challenges. In FY 2008, NSF increased the number of program officers by 15 percent to 520 to help alleviate workload imbalances.¹ But workload pressures increased significantly last February when the agency received \$3 billion in ARRA funds, the bulk of which had to be expended before fiscal year-end. The disbursement of the ARRA funds for new grants

¹ According to the FY 2008 Merit Review Process Report, rotators comprise 59% of the total number of program officers.

during the last half of FY 2009 has increased workload by 40 to 50 percent for those staff engaged in processing new awards and will result in a commensurate increase in post-award workload.

In addition to these new and longstanding issues, the agency’s response to a number of workplace misconduct incidents in 2008 raised questions from Congress and others about its personnel policies and practices, as well as the effectiveness of its Equal Employment Opportunity Office. After these inquiries, the NSF Director told the National Science Board last August that he was determined to make the agency a model of workforce management within the federal government.

Challenge for the Agency: To become a model agency, NSF must address several deficiencies in its workforce planning process. Primarily, it must develop an effective process for estimating future workload and for determining the appropriate number and skill set of the workforce required to administer it. In the past, both program officers and administrative staff have struggled to keep pace with their grant-making responsibilities and have not had adequate time to focus on post-award monitoring activities. The additional awards funded by the Recovery Act in 2009 are likely to exacerbate the situation as they mature over the next three years and require more oversight by NSF staff.

NSF must also define an appropriate role for its temporary professional staff or “rotators” that will fully utilize their expertise in science, education, and engineering while compensating for potential weaknesses in the areas of supervision, and the lack of institutional knowledge and long-term organizational perspective. The agency should determine what types of positions should be reserved for rotators as opposed to federal employees, and if rotators are appointed as managers it must ensure that they have the skills to be effective in that role.

Finally, NSF must continue to make progress in the areas of succession planning and improving the support it offers to managers engaged in recruiting and hiring new employees. A recent analysis of NSF’s workforce indicates that 39 percent will be eligible to retire in 2011. Between the increasing number of agency managers eligible for retirement, and the rotational nature of a large segment of its program officer workforce (59%), ensuring that the appropriate planning and tools for the replenishment of NSF’s program officers and managers is critical to the agency’s success.

OIG’s Assessment of Agency’s Progress: The agency has taken a number of steps to improve workforce management, including hiring a permanent SES-level director of its EEO office. NSF has also formed teams of employees to identify areas for improving employee satisfaction and other areas affecting human capital. The announcement of the agency’s goal to become a model of human capital management is a positive development, indicating an increased commitment on the part of NSF toward improving its human capital management.

The agency continues to make progress towards improving workforce planning. It states that it has taken a number of steps over the past year to address workforce planning issues, including evaluating and updating the workforce planning systems, and improving its customer ratings for agency recruiting and hiring services. NSF reports that further efforts in the areas of staffing, management succession and the use of rotators are pending an upcoming comprehensive analysis of these issues early next year by OPM. Finally, in its FY 2010 budget, NSF has requested funds to contract for development of systems requirements for a workload analysis tool.²

CHALLENGE: Encouraging the Ethical Conduct of Research

Overview: The opportunities and incentives for scientists to commit research misconduct or engage in questionable research practices have never been greater, due to the increasing amount of information stored on the internet, the development of more powerful search tools, the ubiquity of digital research data and the ease with which such data can be manipulated, and the availability of new stimulus-related research funds. In a recent survey of 2,500 scientists by the Pew Research Center, 11% of those polled indicated that the possibility of making a lot of money leads many in their specialty to violate ethical principles, while 26% reported that it leads their colleagues to cut corners on quality.³

Research collaborations between scientists and students from different nations continue to proliferate. Since there are often differences between the various science communities concerning their views on research ethics, and the reporting and compliance regime to which they are subject, it can often be unclear to individual researchers (and sometimes even their oversight officials) which set of rules applies. International organizations such as the OECD’s Global Science Forum (GSF) recognize the problem and have taken steps to foster a discussion about these issues and attempt to develop one framework that will apply in the area of research misconduct.

Challenge for the Agency: NSF’s challenge is to strengthen understanding and adherence to recognized standards of ethical research conduct by scientists in the U.S. and those who participate in international collaborations. One step to addressing the first part of the challenge was mandated by the America COMPETES Act (ACA), which required NSF to ensure that each institution that applies for NSF funds “describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.”⁴

The second part of the challenge pertains to NSF’s responsibility to help lead international efforts to implement a single framework for the investigation and resolution

² OIG is currently conducting a review of the rotating director model, and is planning to perform an evaluation of workforce planning issues during the coming year.

³ “Public Praises Science; Scientists Fault Public, Media”, Pew Research Center for the People and the Press, July 9, 2009.

⁴ 42 U.S.C. § 1862o-1.

of research misconduct allegations made against a participant in a multinational collaboration. In 2007 and in April 2009, the Global Science Forum issued reports that provide a basis for research integrity frameworks in projects involving international partners.⁵

OIG’s Assessment of Agency’s Progress: During the past year, NSF published in the Federal Register its implementation of the ACA requirement, incorporated the requirement into its proposal certifications and updated its Award & Administration Guide and Grant Proposal Guide. It has made two awards to support beta websites that provide resources on ethics education in science and engineering awards. With regard to international collaborations, NSF states that it will complete a white paper related to the GSF report by the end of the year that will specify the actions that it intends to take.

CHALLENGE: Effectively Managing Large Facilities and Instruments

Overview: In FY 2006, NSF spent more than \$1 billion for the operations phase of 16 large facilities including the National Center for Atmospheric Research and the Network for Earthquake Engineering Simulation. The operations phase for large facilities includes the day-to-day work required to support and conduct research and education activities and to ensure that the facility is operating efficiently and in a cost-effective manner. NSF typically awards five-year cooperative agreements to universities or to non-profit organizations to operate and maintain these large facilities. Under the cooperative agreements, the awardee is responsible for day-to-day operations at the facilities, and NSF is responsible for monitoring and overseeing the awardee’s programmatic and financial performance. Cooperative agreements should contain clear performance metrics to help ensure fiscal accountability, stewardship of NSF assets, and compliance with laws and regulations.

Challenge for the Agency: Management of its large facilities presents several challenges for NSF. Because it lacks an overarching policy to ensure that large facility agreements contain terms and conditions to address performance evaluation and measurement, it is a challenge for NSF to make difficult funding decisions between competing priorities. Only two of the six large facility agreements reviewed by the OIG in 2008 included terms and conditions addressing the primary components of a robust program evaluation and measurement system. Given NSF’s \$1 billion annual funding for large facilities, all large facility agreements should contain performance components. Absent these components NSF cannot be assured that the facilities it funds are operating effectively and efficiently and achieving intended goals.

OIG’s Assessment of the Agency’s Progress: NSF agreed with our recommendations to: strengthen its cooperative agreements by adding authority and resources to NSF’s Large Facilities Office, and training NSF staff on the use of performance evaluation and measurement in connection with all large facilities. In its response to last year’s management challenges letter, NSF reported that it has issued a requirement for all

⁵ See <http://www.oecd.org/dataoecd/37/17/40188303.pdf> and <http://www.oecd.org/dataoecd/29/4/42713295.pdf>.

operational facilities to have performance measures established in the cooperative agreements and reported annually. The agency also reported that it conducted its second Large Facilities Workshop on Best Practices for awardees and NSF staff. Additionally, NSF stated that it revised supplementary materials to the Large Facilities Manual and conducted training on the Manual for NSF program staff. Further, NSF has increased the number of personnel assigned to the Large Facilities Office.

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



OFFICE OF THE
DIRECTOR

MEMORANDUM

Date: November 2, 2009

To: Allison C. Lerner
Inspector General, NSF


From: Director, NSF

Subject: Response to the Inspector General's Memorandum
Management Challenges for NSF in FY 2010

Thank you for your memorandum of October 16, 2009, "Management Challenges for NSF in FY 2010." The six issue areas that are cited as presenting the most serious management and performance challenges to the agency – Ensuring Proper Stewardship of Recovery Act Funds, Improving Grant Administration, Strengthening Contract Administration, Becoming a Model Agency for Human Capital Management, Encouraging Ethical Conduct of Research, and Effectively Managing Large Facilities and Instruments – are all current priority issues for NSF management.

The agency is dealing with these issues on a continuing basis and as you aptly noted in your memorandum, these are areas that will likely require management's attention for years to come. As in past years, your memorandum will be shared and discussed with the Foundation's executive staff and officers in the Senior Management Round Table (SMaRT).

The attached report highlights some of the significant actions that were undertaken by the agency last year on the FY 2009 management challenges. As we continue efforts to operate more efficiently and effectively, your memorandum will help guide future activities and resource management decisions.


Arden L. Bement, Jr.

Attachment

cc: Chair, National Science Board
Chair, National Science Board Audit and Oversight Committee

**NATIONAL SCIENCE FOUNDATION (NSF)
Progress During Fiscal Year (FY) 2009
On the OIG's FY 2009 Management Challenges**

OIG's FY 2009 Management Challenge	NSF's Significant Actions Taken in FY 2009	NSF's Anticipated Next Steps
Award and Contract Administration		
<p><i>a. Post-Award Administration Policies</i></p>	<ul style="list-style-type: none"> • Assessed business performance of 30 percent of awardees administering 94 percent of NSF funds through advanced monitoring (30 site visits, 159 desk reviews) under the Award Monitoring and Business Assistance Program (AMBAP) • Issued an updated <i>Proposal & Award Policies & Procedures Guide</i> that incorporated revisions related to the America COMPETES Act (ACA); updated NSF <i>Proposal and Award Manual</i> • Initiated planning for public-facing project report on outcomes of NSF-funded awards (per ACA), highlighting project results and other award products • Developed “Division Director (DD)-concur” functionality in e-Jacket based on end-user input • Provided technical support to second NSB report, <i>Investing in the Future: NSF Cost Sharing Policies for a Robust Federal Research Enterprise (August 3, 2009)</i> • Implemented Information Technology (IT) System hard edit to prohibit award close-out without grantee final cost share certification and Program Officer acceptance • Held Effective Practices Forum topic-specific meetings, at least quarterly, for the NSF Center programs to share management and other practices 	<ul style="list-style-type: none"> • Work with ARRA Steering Committee on updating ARRA policies and procedures document. Revised policies and procedures will address: (1) transfers of ARRA awards, and (2) quarterly recipient reporting requirements. Updated document will identify resources for use by staff in responding to questions from the recipient community, as well as a description of the automated data quality review process that NSF will conduct and Program Officer involvement in the quarterly manual sampling of reports that will be coordinated by the Office of Budget, Finance, and Award Management. • Update proposal and award manuals to reflect changes in policies and procedures • Modify NSF Grant Conditions to require Principal Investigators (PIs) to submit a new type of final report on project outcomes • Modify Research.gov web site to include the capability for PIs to report on end-of-project outcomes • Implement beta DD-concur functionality in e-Jacket • Create automatic notification to awardees for final cost share certification

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Award and Contract Administration - continued		
<i>b. Contract Administration</i>	<ul style="list-style-type: none"> • Developed the U.S. Antarctic Program (USAP) Antarctic Support Contract solicitation and received proposals • Convened the Source Selection Evaluation Team; proposals are being evaluated • Drafted a contract closeout guide • Modified Contracting Officer Technical Representative Handbook training 	<ul style="list-style-type: none"> • Continue the evaluation process until a decision is reached for contract award • Complete closeout guide and ensure proper review and approval of the policy guidance
<i>c. Management of Large Infrastructure Projects</i>	<ul style="list-style-type: none"> • Increased Large Facilities Office staff to strengthen NSF's operational oversight of large facilities • Strengthened oversight by directorates in several ways; for example: (1) revised supplementary materials to the Large Facilities Manual and conducted training on the Manual for NSF program staff; (2) conducted second annual Large Facilities Workshop on Best Practices for awardees and NSF staff; and (3) issued requirement for all operational facilities to have performance measures established in the Cooperative Agreements and reported annually to NSF. • Revised Business Systems Review (BSR) Guide consistent with direction of the BSR Subcommittee of the Business and Operations Advisory Committee • Conducted three BSRs 	<ul style="list-style-type: none"> • Release supplementary materials to Large Facilities Manual for public access • Conduct third annual Large Facilities Workshop on Best Practices for awardees and NSF staff in Spring 2010 • Conduct Project Science Workshop on preconstruction planning for new and ongoing funded project and NSF staff

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Award and Contract Administration - continued		
d. Audit Resolution	<ul style="list-style-type: none"> • Resolved 367 audits (as of FY 2009 end), 75 percent within six months of their receipt from the NSF OIG • Provided OIG access to information for its <i>Audit of the Audit Resolution Process</i> (initiated in March 2008); met with auditors on the process; discussed preliminary findings with the audit team; responded to detailed responses to follow-up questions regarding audit resolution policies and procedures 	<ul style="list-style-type: none"> • Develop agency response to the OIG draft report, <i>Audit of NSF's Audit Resolution Process for OIG Audits of NSF Awardees</i> • Continue to work with OIG auditors providing any further documentation and/or information needed for their review • Respond to findings and recommendations of the final report, <i>Audit of NSF's Audit Resolution Process for OIG Audits of NSF Awardees</i>, for NSF Senior Management
e. International Awards	<ul style="list-style-type: none"> • Developing a white paper in response to a report of the Organization for Economic Co-operation and Development (OECD) Global Science Forum Coordinating Committee for Facilitating International Research Misconduct Investigations • Participated in the International Workshop on Accountability Challenges in Lisbon, Portugal • Referenced OECD materials on research misconduct in program solicitation (NSF 09-566) for the new Basic Research to Enable Agricultural Development (BREAD) program which anticipates subawards to foreign institutions • Proposed language about international considerations for inclusion in materials being developed in response to Section 7009 of the ACA concerning responsible and ethical conduct of research • Compiling a summary of NSF Policies and Practices for International Engagements that will be used to educate and give guidance to NSF staff 	<ul style="list-style-type: none"> • Complete white paper related to OECD report and share information with the National Science Board • Monitor new program solicitations to ensure appropriate language regarding international activities • Finalize internal summary of NSF Policies and Practices for International Engagements, and ensure that policies are appropriately reflected in official NSF documents • Conduct in-reach and outreach regarding international aspects of accountability and research integrity

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Award and Contract Administration - continued		
<p><i>f. Ethical Conduct of Research</i></p>	<ul style="list-style-type: none"> • Posted on the National Academy of Engineering Ethics and Society website the report from the NSF-funded workshop, <i>Ethics Education: What's Been Learned, What Should Be Done?</i> held by the National Academies of Science • Posted Federal Register Notice (#74 FR 8818) including NSF's proposed implementation plan for Section 7009 of ACA concerning responsible and ethical conduct of research; resolved 188 comments received prior to finalizing the Foundation's RCR implementation strategy • Posted Federal Register Notice (#74 FR 42126) which announced NSF's implementation strategy for Section 7009 of the ACA; the FR notice specified that NSF's formal implementation would appear in an updated version of the <i>NSF Proposal & Award Policies & Procedures Guide</i> • Issued an Updated Version of the <i>NSF Proposal & Award Policies & Procedures Guide</i> which specified NSF's formal RCR implementation in Part I: <i>Grant Proposal Guide</i> as a new proposal certification, as well as in Part II, <i>Award & Administration Guide</i> which addressed awardees post award requirements • Made two awards to support development of beta sites that provide resources on ethics education in science and engineering awards • Continued funding research in ethics education and promoted development and implementation of effective practices through education and training programs 	<ul style="list-style-type: none"> • Update NSF's award terms and conditions to incorporate the requirement that the institution verify that all undergraduates, graduate students and postdoctoral researchers supported by NSF have received the requisite training • Issue a set of FAQs to address the questions received from the university community in response to NSF's implementation of Section 7009

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Human Capital (HC)		
<i>a. Workforce Planning</i>	<ul style="list-style-type: none"> • Completed staffing plans for FY 2009 - 2010 • Created Administrative Functions Management (AFM) position summary and competency profiles; created Learning Maps within the Academy Learn system for all five AFM jobs • Evaluated existing workforce planning systems and identified systems requirements • Updated workload analysis model forecast for FYs 2009 – 2011 • Piloting a New Executive Transition website • Piloted a Knowledge Management portal • Developing the content for a comprehensive program management curriculum • Developed a list of Program Officer related e-Business courses on Review Analysis and Finding Reviewers • Achieved a 4.7 to 10.5 percent improvement in workforce planning, performance management, recruitment of permanent, executive and rotator staff, and organizational development activities as indicated by the annual customer satisfaction survey 	<ul style="list-style-type: none"> • Further efforts in the areas of staffing, management succession and the use of “rotators” which will be guided by the results of an upcoming comprehensive analysis of these human capital issues • Develop content for New Executive Transition website • Continue vetting e-Business courses • Explore other alternatives for knowledge management retention for departing and replacing executives (based on feedback from the pilot) • Roll out new briefing for all new employees about working at NSF and for the Federal Government

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Human Capital (HC) - continued		
<i>b. Administrative Infrastructure</i>	<ul style="list-style-type: none"> • Initiated a user interface working group in collaboration with EDS to identify areas for improvement • Implemented an aggressive customer care program • Increased the number of FedTraveler/EDS helpdesk staff to enhance customer service • Achieved 9 percent improvement in customer service and 40 percent improvement in the FedTraveler system as indicated by the annual customer satisfaction survey • Started a process to identify improved ways to allocate travel funds for oversight; distribution of travel funds for oversight has been a focus of the Deputy Directors/ Executive Officers (DADEO) work group; the level of funding would be to the extent AOAM budget permits. 	<ul style="list-style-type: none"> • Participate in GSA's "next generation e-travel effort" in preparation for the expiration of the current e-travel system contracts, including FedTraveler • Augment travel staffing
Budget, Cost and Performance Integration		
<i>a. Performance Reporting</i>	<ul style="list-style-type: none"> • Clarified the evaluation criteria under each of the strategic outcome goals (<i>Discovery, Learning, and Research Infrastructure</i>) in preparation for the June 2009 meeting of the Advisory Committee for GPRA Performance Assessment (AC/GPA) which resulted in the Committee conducting a more thorough evaluation of the outcomes and examining other ways to evaluate program outcomes over a longer period 	<ul style="list-style-type: none"> • Review the Committee's recommendations on how NSF may continue to take a longer-term view of program assessment
<i>b. Cost Information</i>	<ul style="list-style-type: none"> • Enhanced the effort begun in the FY 2009 Budget Request related to NSF's investments in IT to support its programs and operations • Presented the detailed allocation for IT in NSF's annual budget request to the Congress • Provided information on IT investments that support administrative functions and NSF's programmatic 	<ul style="list-style-type: none"> • Continue to explore additional approaches to make cost information related to NSF's internal operations more transparent and accessible in ways that avoid placing an additional recordkeeping burden on staff

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	investments	
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United States Antarctic Program (USAP)		
<i>a. Long-Term Planning</i>	<ul style="list-style-type: none"> • Provided a detailed explanation to the OIG on the mechanisms that are used to ensure the plant, property and equipment is maintained, upgraded and replaced, as may be appropriate on a case-by-case basis 	<ul style="list-style-type: none"> • Continue to place a high priority on the health and safety, occupational as well as medical, of all participants in the USAP and to seek ways to improve the delivery of services to accomplish this goal
<i>b. Disaster Recovery Planning</i>	<ul style="list-style-type: none"> • Resolved this issue with the OIG in 2007, and planning has been completed 	<ul style="list-style-type: none"> • Complete implementation by the new contractor for the USAP • Continue to maintain the USAP network and its operations with regard for security and continuity of operations
Merit Review		
<i>Broadening Participation in the Merit Review Process</i>	<ul style="list-style-type: none"> • Finalized and published the Framework for Action, incorporating Advisory Committee comments • Established internal and external web pages for Broadening Participation • Published and updated Broadening Participation Portfolio • Held workshop for tribal colleges and universities and other grants workshops for diverse institutions • Refined plan for Reviewer Services, integrating with other research.gov services to broaden participation • Began implicit bias training module for program officers 	<ul style="list-style-type: none"> • Pilot Reviewer Services • Pilot implicit bias training and make it available for all program officers • Distribute OMB-approved reviewer questionnaire and measure merit review participation results

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 1,449 NSF invention disclosures reported to the Foundation either directly or through NIH's iEdison database during FY 2009. 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	ICASS	International Congress of Arctic Social Sciences
ACA	America Competes Act	ICWG	Ice Core Working Group
AFR	Annual Financial Report	IPIA	Improper Payments Information Act of 2002
AMBAP	Award Monitoring and Business Assistance Program	IT	Information Technology
AOAM	Agency	LIGO	Laser Interferometer Gravitational Wave Observatory
APIC	Accountability and Performance Integration Council	MOU	Memorandum of Understanding
APR	Annual Performance Report	MREFC	Major Research Equipment and Facilities Construction
ARI	Academic Research Infrastructure	MSP	Math and Science Partnership
ARRA	American Recovery and Reinvestment Act of 2009	MTS	Federal Measurement Tracking System
BREAD	Basic Research to Enable Agricultural Development	NIST	National Institute of Standards and Technology
BSR	Business Systems Review	NSB	National Science Board
CFO	Chief Financial Officer	NSF	National Science Foundation
CMIA	Cash Management Improvement Act	OECD	Organisation for Economic Co-operation and Development
COO	Chief Operating Officer	OIG	Office of Inspector General
COV	Committee of Visitors	OMB	Office of Management and Budget
CSEMS	Computer Science, Engineering and Mathematics Scholarship Program	OPM	United States Office of Personnel Management
CSRS	Civil Service Retirement System	OPP	Office of Polar Programs
DD	Division Director	PP&E	Property, Plant and Equipment
DOL	Department of Labor	R&RA	Research and Related Activities
EEO	Equal Employment Opportunity	RCR	Responsible Conduct of Research
EHR	Education and Human Resources	RPSC	Raytheon Polar Services Company
EIS	Enterprise Information System	SBR	Statement of Budgetary Resources
FAS	Financial Accounting System	SES	Senior Executive Service
FASAB	Federal Accounting Standards Advisory Board	SFFAS	Statements of Federal Financial Accounting Standards
FBWT	Fund Balance with Treasury	STEM	Science, Technology, Engineering, and Mathematics
FCTR	Federal Cash Transaction Report	TAFS	Treasury appropriation fund symbol
FECA	Federal Employees' Compensation Act	TBD	To Be Determined
FERS	Federal Employees Retirement System	UNAVCO	University NAVSTAR Consortium
FFMIA	Federal Financial Management Improvement Act of 1996	USAF	U.S. Air Force
FFR	Federal Financial Report	USAP	U.S. Antarctic Program
FMFIA	Federal Managers' Financial Integrity Act of 1982		
FFRDC	Federally Funded Research and Development Center		
FISMA	Federal Information Security Management Act		
FMFIA	Federal Financial Management Improvement Act of 1996		
FSIO	Financial Systems Integration Office		
FY	Fiscal Year		
GAAP	Generally Accepted Accounting Principles		
GPA	GPRA Performance Assessment		
GPRA	Government Performance and Results Act		
GSA	Government Services Administration		
HC	Human Capital		