

III. FINANCIALS





A MESSAGE FROM THE CHIEF FINANCIAL OFFICER

I am pleased to join NSF Director Dr. Rita Colwell in presenting the National Science Foundation's *FY 2002 Performance and Accountability Report*. This is the first year we have combined the reporting of the programmatic performance accomplishments required by the Government and Performance Results Act with the financial and management accomplishments of the agency.

Overall, FY 2002 was truly an impressive year. We received our fifth consecutive unqualified audit opinion on our financial statements and our third consecutive *Certificate of Excellence in Accountability Reporting* from the Association of Government Accountants. NSF remained the only agency for the second year in row to receive any "green" ratings from the Office of Management and Budget, for successfully meeting our goals for the President's Management Agenda initiatives on financial management and E-government. In addition, in a national competition of best annual reports, our FY 2001 Highlights report on performance and management was rated fourth in a top 100 list that largely consisted of Fortune 500 companies.



Our outstanding operational performance reflects our on-going efforts as an agency to implement leading-edge business practices in the pursuit of investments in science and engineering research and education. Simply stated, I believe NSF's excellence in administrative practices mirrors its outstanding merit review process, and together they lay the Foundation for tomorrow's discoveries -- discoveries that have the potential to redefine our lives.

We are never satisfied with the status quo, however. NSF is actively addressing two repeat reportable conditions from the FY 2001 audit, in the areas of information security and award management. We have plans in place to address each one, with many of our actions already complete. I am confident we are on the right course, working with our Inspector General to resolve these findings in the coming year.

NSF will continue to take risks, as part of growing and building any highly effective organization. And, NSF will also maintain its unwavering focus on and commitment to upholding the highest standards of administrative excellence. While no organization can ever achieve perfection, it is paramount that we stay focused on conducting business in a fun, fast and fair manner on behalf of all of our customers and stakeholders in an ever-changing environment. In closing, I wish to thank the outstanding staff we have at NSF, for they are the driving force behind our achievements in administrative excellence. NSF can only be as successful as the integrity, values and competence of its staff. It is they who personify the trust and high expectations the nation has for the Foundation and its investments in learning and discovery.

Thomas N. Cooley

January 28, 2003

**Financial Statements as of and for the years ended
September 30, 2002 and 2001**

National Science Foundation
Balance Sheet
As of September 30, 2002 and 2001
(Amounts in Thousands)

ASSETS

	<u>2002</u>	<u>2001</u>
Intragovernmental		
Fund Balance With Treasury (Note 2)	\$ 6,419,700	\$ 5,720,311
Accounts Receivable (Note 3)	185	5,588
Advances (Note 4)	8,309	2,457
Total Intragovernmental Assets	<u>6,428,194</u>	<u>5,728,356</u>
Cash	7,766	5,744
Accounts Receivable, Net (Note 3)	571	875
Advances (Note 4)	52,479	63,681
General Property, Plant and Equipment, Net (Note 5)	<u>224,141</u>	<u>203,242</u>
Total Assets	\$ <u>6,713,151</u>	\$ <u>6,001,898</u>

LIABILITIES

Intragovernmental Liabilities		
Advances From Others	\$ 100,531	\$ 115,125
Other Intragovernmental Liabilities (Note 6)	321	244
FECA Employee Benefits (Notes 7 and 8)	254	296
Total Intragovernmental Liabilities	<u>101,106</u>	<u>115,665</u>
Accounts Payable	38,370	29,325
Other Liabilities (Note 6)	214,266	258,132
FECA Employee Benefits (Notes 7 and 8)	1,637	1,806
Lease Liabilities (Notes 7 and 9)	60	451
Accrued Annual Leave (Note 7)	<u>10,567</u>	<u>9,660</u>
Total Liabilities	<u>366,006</u>	<u>415,039</u>

NET POSITION

Unexpended Appropriations (Note 10)	6,089,118	5,343,547
Cumulative Results of Operations	<u>258,027</u>	<u>243,312</u>
Total Net Position	<u>6,347,145</u>	<u>5,586,859</u>
Total Liabilities and Net Position	\$ <u>6,713,151</u>	\$ <u>6,001,898</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statements of Net Cost
For the Years Ended September 30, 2002 and 2001
(Amounts in Thousands)

Program Costs

	<u>2002</u>	<u>2001</u>
People		
Intragovernmental		
Program Cost	\$ 1,714	\$ 1,454
Salary & Expense and Inspector General Cost	678	493
Total Intragovernmental Cost	<u>2,392</u>	<u>1,947</u>
With the Public		
Program Cost	766,020	703,495
Salary & Expense and Inspector General Cost	28,732	27,808
Total Public Cost	<u>794,752</u>	<u>731,303</u>
Total People Program Cost	797,144	733,250
Less: Intragovernmental Earned Revenues	17,903	9,832
Net People Program Cost	<u>779,241</u>	<u>723,418</u>
Ideas		
Intragovernmental		
Program Cost	13,293	10,419
Salary & Expense and Inspector General Cost	5,305	3,528
Total Intragovernmental Cost	<u>18,598</u>	<u>13,947</u>
With the Public		
Program Cost	2,166,046	1,964,948
Salary & Expense and Inspector General Cost	79,095	77,670
Total Public Cost	<u>2,245,141</u>	<u>2,042,618</u>
Total Ideas Program Cost	2,263,739	2,056,565
Less: Intragovernmental Earned Revenues	60,979	54,125
Net Ideas Program Cost	<u>2,202,760</u>	<u>2,002,440</u>
Tools		
Intragovernmental		
Program Cost	63,131	82,119
Salary & Expense and Inspector General Cost	30,860	27,810
Total Intragovernmental Cost	<u>93,991</u>	<u>109,929</u>
With the Public		
Program Cost	1,043,378	846,178
Salary & Expense and Inspector General Cost	39,216	33,448
Total Public Cost	<u>1,082,594</u>	<u>879,626</u>
Total Tools Program Cost	1,176,585	989,555
Less: Intragovernmental Earned Revenues	26,320	17,272
Net Tools Program Cost	<u>1,150,265</u>	<u>972,283</u>
Net Cost of Operations (Note 11)	<u>\$ 4,132,266</u>	<u>\$ 3,698,141</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, 2002
(Amounts in Thousands)

	<u>Cumulative Results of Operations</u>	<u>Unexpended Appropriations</u>
Beginning Balances	\$ 243,312	\$ 5,343,547
Budgetary Financing Sources		
Appropriations Received (Net of Offsetting Receipts)	-	4,869,579
Appropriations Transferred In/(Out)	-	14,000
Other Adjustments	-	(30,086)
Appropriations Used	4,107,922	(4,107,922)
Nonexchange Revenue	87	-
Donations and Forfeitures of Cash	32,606	-
Other Financing Sources		
Imputed Financing from Costs Absorbed by Others	6,366	-
Total Financing Sources	<u>4,146,981</u>	<u>745,571</u>
Net Cost of Operations (Note 11)	<u>4,132,266</u>	<u>-</u>
Ending Balances	<u>\$ 258,027</u>	<u>\$ 6,089,118</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Budgetary Resources
For the Year Ended September 30, 2002
(Amounts in Thousands)

Budgetary Resources

Budgetary Authority: (Note 12)		
Appropriations Received		\$ 4,902,272
Net Transfers		14,000
Unobligated Balance – Beginning of Period		239,272
Spending Authority from Offsetting Collections:		
Earned:		
Collected	\$ 111,198	
Receivable from Federal Sources	(5,403)	
Change in Unfilled Customer Orders:		
Advance Received	(14,594)	
Without Advance from Federal Sources	<u>(5,309)</u>	
Subtotal		85,892
Recoveries of Prior Year Obligations		47,092
Permanently Not Available		(30,076)
Total Budgetary Resources		\$ <u>5,258,452</u>

Status of Budgetary Resources

Obligations Incurred:		
Direct	\$ 4,868,335	
Reimbursable	<u>85,300</u>	
Subtotal		\$ 4,953,635
Unobligated Balance:		
Apportioned		213,344
Unobligated Balance Not Available		91,473
Total Status of Budgetary Resources		\$ <u>5,258,452</u>

Relationship of Obligations to Outlays

Net Obligated Balance – Beginning of Period		\$ 5,480,812
Net Obligated Balance – End of Period		
Accounts Receivable		(185)
Unfilled Customer Orders from Federal Sources		(2,505)
Undelivered Orders		5,872,382
Accounts Payable		<u>244,931</u>
Total Net Obligated Balance – End of Period		\$ <u>6,114,623</u>
Outlays:		
Disbursements	\$ 4,283,436	
Collections	<u>(96,604)</u>	
Subtotal		4,186,832
Less: Offsetting Receipts		32,693
Net Outlays		\$ <u>4,154,139</u>

The accompanying notes are an integral part of these statements.

National Science Foundation
Statement of Financing
For the Year Ended September 30, 2002
(Amounts in Thousands)

Resources Used to Finance Activities

Budgetary Resources Obligated

Obligations Incurred	\$ 4,953,635
Less: Spending Authority for Offsetting Collections and Recoveries	132,984
Obligations Net of Offsetting Collections and Recoveries	4,820,651
Less: Offsetting Receipts	32,693
Net Obligations	4,787,958

Other Resources

Imputed Financing from Costs Absorbed by Others	6,366
Net Other Resources Used to Finance Activities	6,366

<i>Total Resources Used to Finance Activities</i>	4,794,324
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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	(674,451)
Resources that Fund Expenses Recognized in Prior Periods	93
Budgetary Offsetting Collections and Receipts that do not affect Net Cost of Operations	32,693
Resources that Finance the Acquisition of Assets	(35,694)

<i>Total Resources Used to Finance Items not Part of the Net Cost of Operations</i>	(677,359)
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<i>Total Resources Used to Finance Net Cost of Operations</i>	4,116,965
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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	516
Total Components of Net Cost of Operations that will Require or Generate Resources in Future Periods (Note 14)	516

Components not Requiring or Generating Resources

Depreciation and Amortization	14,737
Revaluation of Assets or Liabilities	(9)
Other	57

Total Components of Net Cost of Operations that will not Require or Generate Resources	14,785
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<i>Total Components of Net Cost of Operations that will not Require or Generate Resources in the Current Period</i>	15,301
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Net Cost of Operations (Note 11)	\$ 4,132,266
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The accompanying notes are an integral part of these statements.

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 aim is to promote and advance scientific progress in the United States. NSF initiates and supports basic scientific research and research fundamental to the engineering process and programs to strengthen scientific and engineering research potential. NSF also supports science and engineering 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. 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 (Board). The Board, composed of 24 members, represents a cross section of American leaders in science and engineering research and education, who are appointed by the President for six-year terms. The NSF Director is a member *ex officio* of the Board.

NSF is authorized by section 11(f) of the NSF Act [42 U.S.C. 1870(f)], to receive and use funds donated by others, if such funds are donated without restriction other than they be used in the furtherance of the mission of the Foundation. These donations are funds received from foreign governments, private companies, academic institutions, non-profit foundations, and individuals. Donated funds are accepted into the NSF trust fund account either as unrestricted or as earmarked contributions to specific NSF programs that the Foundation holds in trust for disbursement to its awardees. Foreign donations are deposited initially in a commercial bank as a convenient wire-transfer depository. When needed for program support purposes, they are transferred into an account at the U.S. Treasury. Interest earnings on the commercial bank deposits are used for the same purposes as the principal donations. Funds are made available for obligation as necessary to support NSF programs.

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 Bulletin No. 01-09, *Form and Content of Agency Financial Statements*. They have been prepared from the books and records of NSF in accordance with generally accepted accounting principles in the United States of America. These statements are therefore different from the financial reports, also prepared by NSF pursuant to OMB directives, that are used to monitor and control NSF's use of budgetary resources.

The *Budget of the United States* (also known as the President's Budget) with actual numbers for FY 2002 was not published at the time that these financial statements were issued. The President's Budget is expected to be published in February 2003. It will be available from the United States Government Printing Office.

C. Basis of Accounting

The accompanying financial statements have been prepared using the accrual method in addition to recognizing certain budgetary transactions. Under the accrual method, revenues are recognized when earned and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of federal funds. NSF records grant expenses from expenditure reports submitted by the grantees. Grantees may be on either an accrual or cash basis of accounting, and NSF records amounts as reported.

D. Revenues and Other Financing Sources

NSF receives the majority of its funding through appropriations contained in the Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act. NSF receives both annual and multi-year appropriations that may be expended, within statutory limits. Additional amounts are obtained through reimbursements for services provided to and allocation transfers from other federal agencies and donations to the trust fund account. Also, NSF receives interest earned on overdue receivables and excess cash advances to grantees. The interest earned on overdue receivables is returned to the Treasury. Interest earned on excess cash advances to grantees is sent directly to the Department of Health and Human Services in accordance with OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals and Other Non Profit Organizations*.

Appropriations are recognized as a financing source at the time the related “funded” program or administrative expenses 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.

E. Fund Balance with Treasury and Cash

Cash receipts and disbursements are processed by the Treasury. The Fund Balance with Treasury is comprised primarily of appropriated funds that are available to pay current liabilities and finance authorized purchase commitments, but also includes non-appropriated funding sources from donations and other revenue received from an NSF cooperative agreement to register Internet domain names.

NSF has also established commercial bank accounts to hold some donated funds in trust, in interest bearing accounts as permitted by the contributors. These funds are collateralized by the bank through the U.S. Treasury.

F. Accounts Receivable, Net

Accounts Receivable consists of amounts due from governmental agencies, private organizations, and individuals. NSF establishes an allowance for accounts receivable from private sources that are deemed uncollectible, but regards amounts due from other federal agencies as fully collectible. Due to the small number and dollar amount of the private receivables, NSF analyzes each account independently to assess collectability and the need for an offsetting allowance or write-off.

G. Advances

Advances consist of advances to grantees, contractors and employees. Advance payments are made to grant recipients so that recipients may incur expenses 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. Total grant expenditures for the year includes an estimate of fourth quarter amounts due and payable to grantees. The estimate is compiled using historical grantee expenditure data. For those grantees with advance payments exceeding expenditures, the aggregate difference is reported as an advance. Additionally, for those grantees with expenditures exceeding advance payments, the aggregate difference is reported as a grant liability. Advances to contractors are payments made in advance of incurring expenses. Advances to employees are related to travel. Advances are reduced when documentation supporting the expenditures is received.

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

PP&E

NSF capitalizes acquisitions with costs exceeding \$25,000 and useful lives exceeding two years. Acquisitions not meeting these criteria are recorded as operating expenses. NSF currently reports capitalized PP&E at original acquisition cost; assets acquired from General Services Administration's (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. Depreciation expense is calculated using the straight-line method. The economic 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 years - generators, Department of Defense equipment

Aircraft and Satellites

- 7 years - aircraft, aircraft conversions, and satellites

Buildings and Structures

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

Internal Use Software

- 5 years - internal use software

Leasehold Improvements

The economic life of Leasehold Improvements is amortized over the number of years remaining on the lease for the NSF headquarters building. In FY 2002, Leasehold Improvements completed during FY 2002 will be amortized over 11 years, which represents the remaining years on NSF's lease with GSA.

The PP&E balance consists of Equipment, Aircraft and Satellites, Buildings and Structures, Leasehold Improvements, and Construction in Progress. Costs are accumulated in construction in progress until such time as the project is completed and at that time capitalized and depreciated over the respective useful life of the assets. These balances are comprised of PP&E maintained "in-house" by NSF to support agency operations and PP&E under the U.S. Antarctic Program (USAP). The majority of USAP property is currently the custodial responsibility of Raytheon Technical Services Company, the NSF contractor for the program. Additionally, the U.S. Navy's Space and Naval Warfare Center also has custodial responsibility for some USAP property.

Office Space

The NSF headquarters building is leased through the GSA. NSF is billed by GSA for the leased space as rent based upon estimated lease payments made by GSA plus an administrative fee. The cost of the headquarters building is not capitalized by NSF. The cost of leasehold improvements performed by GSA are financed with NSF appropriated funds. The leasehold improvements are capitalized by NSF as they are transferred from CIP upon completion, if the leasehold improvements meet NSF's capitalization threshold. Amortization is calculated using the straight-line method over the lesser of their useful lives or the unexpired lease term.

Internal Use Software

In fiscal year 2001, NSF began to control, value and report 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 \$500,000 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 method.

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, and private entities. The funds provided may be used in certain cases to purchase or construct Property, Plant, and Equipment to be used for operations or research on the projects or programs sponsored by NSF. In these instances, NSF funds the acquisition of property, but transfers control to these entities. NSF's authorizing legislation specifically prohibits it from operating such property directly. In practice, NSF's ownership interest in such PP&E is similar to a reversionary interest. To address the accounting and reporting of these assets, specific guidance was sought by NSF and provided by the Federal Accounting Standards Advisory Board (FASAB). This guidance stipulated that NSF should: (i) disclose the value of such PP&E held by others in its financial statements based on information contained in the audited financial statements of these entities (if available). Where separate audited amounts are not available for a specific entity, NSF should name the entity and note that these amounts are unavailable; and (ii) report information on costs incurred to acquire the research facilities, equipment, and platforms in the Research and Human Capital Activity costs as required by the Statement of Federal Financial Accounting Standards No. 8, *Supplementary Stewardship Reporting*.

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 G, Advances. The amount to be allocated is based on a percentage of the reimbursable grant expenditures, by partner agencies to NSF, to the total grant expenditures.

J. Accounts Payable

Accounts Payable consists of liabilities to commercial vendors and contractors. Accounts payable to commercial vendors 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 expenses to commercial vendors. Contract liabilities are estimated expenses over and above the amount of advances given to contractors. At year end, NSF accrues the amount of estimated expenses not covered by advances given to contractors.

K. Other Liabilities

Other liabilities consist of grant accruals, accrued payroll, benefits, and income taxes withheld. Grant liabilities are estimated grantee expenses over and above the amount of advances given to grantees. At year end, NSF accrues for the amount of estimated grantee expenses not covered by advances given to grantees. Accrued payroll, benefits, and income taxes withheld relate to services rendered by NSF employees but not yet paid. At year end, NSF accrues the actual amount of wages and benefits earned, but not yet paid, and income taxes withheld.

L. Annual, Sick, and Other Leave

Annual leave is accrued as it is earned, and the accrual is reduced as leave is taken. Each year, the balance in the accrued annual leave account is adjusted to reflect changes. To the extent current and prior-year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future Salaries and Expenses appropriations. Sick leave and other types of nonvested leave are expensed as taken.

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 Salaries and Expenses 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 unobligated and unexpended budget authority. Unobligated balances are the amount of appropriations or other authority remaining after deducting the cumulative obligations from the amount available for obligation. Cumulative results of operations is the net result of NSF's operations since inception.

O. Retirement Plan

In FY 2002, approximately 33 percent of NSF employees participated in the Civil Service Retirement System (CSRS), to which NSF made matching contributions equal to 8.51 percent of pay. The majority of NSF employees are covered by the Federal Employees Retirement System (FERS) and Social Security. A primary feature of FERS is that it offers a thrift savings plan to which NSF automatically contributes 1 percent of pay and matches employee contributions up to an additional 4 percent of pay. NSF also contributes the employer's matching share for Social Security for FERS participants.

Although NSF funds a portion of the benefits under FERS and CSRS relating to its employees and withholds the necessary payroll deductions, the agency has no liability for future payments to employees under these plans, nor does NSF report CSRS, FERS, or 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. In FY 2002, NSF's contributions to CSRS and FERS were \$2,994,127 and \$6,282,728, respectively. In FY 2001, NSF's contributions to CSRS and FERS were \$3,082,234 and \$5,506,810, respectively.

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 communicate these factors to the agency for current period expense reporting. Information was also provided by OPM regarding the full cost of health and life insurance benefits. In FY 2002, NSF, utilizing cost factors dated September 11, 2002, recognized \$2,845,333 of pension expenses, \$3,502,521 of post-retirement health benefits expenses and \$18,444 of post-retirement life insurance expenses, beyond amounts actually paid. NSF recognized offsetting revenue of \$6,366,298 as an imputed financing source to the extent that these intragovernmental expenses will be paid by OPM.

In FY 2001, NSF, utilizing cost factors dated October 15, 2001, recognized \$2,731,233 of pension expenses, \$2,915,028 of post-retirement health benefits expenses and \$17,110 of post-retirement life insurance expenses, beyond amounts actually paid. NSF recognized offsetting revenue of \$5,663,371 as an imputed financing source to the extent that these intragovernmental expenses will be paid by OPM.

P. Commitments, Contingencies, and Possible Future Costs

Commitments

Commitments are contractual agreements involving financial obligations. NSF is committed for goods and services that have been ordered, but have not yet been delivered.

Contingencies - Claims and Lawsuits

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

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

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 agency's financial position or operations. NSF recognizes a contingency in the financial statements when unasserted claims are probable of assertion, and if asserted would have at least a reasonable possibility of an unfavorable outcome,

and expected to result in a measurable material 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.

Q. Use of Estimates

The preparation of the accompanying financial statements requires management to make estimates and assumptions about certain estimates included in the financial statements. Actual results will invariably differ from those estimates.

R. Tax Status

NSF, as a federal agency, is not subject to federal, state, or local income taxes and, accordingly, no provision for income taxes is recorded.

S. Reclassifications

Certain reclassifications have been made to prior year amounts to conform to the current year presentation.

Note 2. Fund Balance with Treasury

Fund Balance with Treasury consisted of the following components as of September 30, 2002 and 2001:

(Amounts in Thousands)

	<u>2002</u>			
	Appropriated Funds	Trust Funds	Other Funds	Total
Obligated	\$ 6,092,471	\$ 11,186	\$ 10,712	\$ 6,114,369
Unobligated Available	193,041	20,644	291	213,976
Unobligated Unavailable	91,095	-	260	91,355
Total Fund Balance	<u>\$ 6,376,607</u>	<u>\$ 31,830</u>	<u>\$ 11,263</u>	<u>\$ 6,419,700</u>

*National Science Foundation
Notes to the Financial Statements
For the Years Ended September 30, 2002 and 2001*

	<u>2001</u>			
	Appropriated Funds	Trust Funds	Other Funds	Total
Obligated	\$ 5,449,887	\$ 12,429	\$ 18,202	\$ 5,480,518
Unobligated Available	135,034	17,675	318	153,027
Unobligated Unavailable	86,539	-	227	86,766
Total Fund Balance	<u>\$ 5,671,460</u>	<u>\$ 30,104</u>	<u>\$ 18,747</u>	<u>\$ 5,720,311</u>

"Other Funds" consists of \$10,711,902 and \$18,202,155, as of September 30, 2002 and 2001, respectively, received from a corporation that registered second level Internet domain names under NSF's cooperative agreement and nonexpenditure transfer authorizations, deposits, holdings, and miscellaneous receipt accounts. The nonexpenditure transfer authorizations are appropriation allocations from other government agencies and include 14,063,769 and 14,926,765 Indian rupees converted as of September 30, 2002 and 2001, respectively, to U.S. dollars at the prevailing Treasury rate of 48.38 rupees to \$1 US, or \$288,015 and 47 rupees to \$1 US, or \$317,591, respectively.

The Trust Fund includes amounts donated to NSF. Other Funds and Trust Funds are restricted for intended purposes. Unavailable balances include recovered expired appropriations and other amounts related to expired authority and holdings, which are unavailable for NSF use.

Note 3. Accounts Receivable, Net

Intragovernmental

The Intragovernmental Accounts Receivable consists of reimbursements and repayments due from other government agencies. As of September 30, 2002 and 2001, the amount of intragovernmental accounts receivable was \$184,572 and \$5,587,648, respectively.

Public

As of September 30, 2002 and 2001, Accounts Receivable (net) due from private organizations and individuals consisted of:

(Amounts in Thousands)

	<u>2002</u>		<u>2001</u>	
Accounts Receivable	\$	8,753	\$	9,058
Allowance for Uncollectible Accounts		<u>(8,182)</u>		<u>(8,183)</u>
Net Amount Due	\$	<u>571</u>	\$	<u>875</u>

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As of September 30, 2002 and 2001, the reconciliation of the allowance for uncollectible accounts is as follows:

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
Beginning Allowance	\$ 8,183	\$ 8,183
Additions	-	26
Reduction (write-offs)	<u>(1)</u>	<u>(26)</u>
Ending Allowance	<u>\$ 8,182</u>	<u>\$ 8,183</u>

An allowance was set up in FY 2000 for \$7,929,465, which represents the allowance for a receivable from a grantee that filed for dissolution. The receivable has been forwarded to the Department of Justice, as required by OMB Circular A-129, *Policies for Federal Credit Programs and Non-Tax Receivables*, and U.S.C. 31 Section 3711, for concurrence on the termination of debt. In FY 2002, the allowance was reduced by \$874 in surplus equipment sale proceeds received and concurrence on termination of this debt is still pending.

Note 4. Advances

As of September 30, 2002 and 2001, Advances consisted of the following components:

Intragovernmental

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
Advances to Others	\$ 8,309	\$ 2,457

Public

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
Advances to Grantees	\$ 52,472	\$ 63,004
Advances to Contractors	7	677
Total Advances with the Public	<u>\$ 52,479</u>	<u>\$ 63,681</u>

Note 5. General Property, Plant and Equipment, Net

Property, Plant and Equipment in the Custody of NSF

The components of Property, Plant and Equipment as of September 30, 2002 and 2001 were:

(Amounts in Thousands)

	<u>2002</u>		
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 62,565	\$ 44,805	\$ 17,760
Aircraft and Satellites	135,865	94,842	41,023
Buildings and Structures	85,034	39,078	45,956
Construction in Progress	116,313	-	116,313
Internal Use Software	2,175	652	1,523
Software in Development	1,566	-	1,566
Total PP&E	<u>\$ 403,518</u>	<u>\$ 179,377</u>	<u>\$ 224,141</u>
		<u>2001</u>	
	Acquisition Cost	Accumulated Depreciation	Net Book Value
Equipment	\$ 62,822	\$ 49,518	\$ 13,304
Aircraft and Satellites	94,207	87,185	7,022
Buildings and Structures	84,691	36,786	47,905
Construction in Progress	133,054	-	133,054
Internal Use Software	2,175	218	1,957
Total PP&E	<u>\$ 376,949</u>	<u>\$ 173,707</u>	<u>\$ 203,242</u>

Property, Plant and Equipment in the Custody of Others

The amount of PP&E owned by NSF but in the custody of other entities identified in the following table was obtained from the respective entities' audited financial statements. If the audited financial statements were issued after NSF's audited financial statements were prepared, or if NSF PP&E is not separately stated on the entities' audited financial statements, then the amounts relating to such entities are annotated as "NA" (Not Available) in the table.

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The amounts reported by entities in their audited financial statements are as follows:

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>	<u>Year End</u>
National Center for Atmospheric Research	\$ NA	\$ 96,205	09/30
National Optical Astronomy Observatories	NA	370,069	09/30
National Radio Astronomy Observatories	NA	301,012	09/30
National Astronomy and Ionosphere Center	NA	NA	06/30
The Science and Technology Policy Institute	NA	-	09/30

NSF has not reported the names of other entities that are holding assets titled to NSF because their audited 2002 and 2001 financial information was not provided at the time of NSF's financial statement preparation.

Note 6. Other Liabilities

Other Liabilities represent current accrued liabilities which consist of grant and contract accruals, accrued employer contributions for payroll and benefits, disbursements in transit, accrued payroll and benefits, and various employee related liabilities for payroll and benefit deductions. As of September 30, 2002 and 2001, Other Liabilities consisted of the following:

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
<u>Intragovernmental</u>		
Employer Contributions for Payroll Benefits	\$ 321	\$ 244
<u>Other Liabilities</u>		
Accrued Liabilities	\$ 210,738	\$ 254,925
Accrued Payroll and Benefits	3,269	2,707
State and Other Income Taxes Withheld	248	217
Disbursements in Transit	-	275
Employee Deductions for U.S. Savings Bonds	11	8
Total Other Liabilities	<u>\$ 214,266</u>	<u>\$ 258,132</u>

Note 7. Liabilities Not Covered by Budgetary Resources

Certain liabilities are not funded by current budgetary resources. As of September 30, 2002 and 2001, Liabilities Not Covered by Budgetary Resources consisted of the following:

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
Intragovernmental: FECA Employee Benefits	\$ 254	\$ 296
FECA Employee Benefits	1,637	1,806
Accrued Annual Leave	10,567	9,660
Liabilities Not Covered by Budgetary Resources to Fund		
Cost of Operations	\$ 12,458	\$ 11,762
Lease Liabilities	60	451
Total Liabilities Not Covered By Budgetary Resources	<u>\$ 12,518</u>	<u>\$ 12,213</u>

Note 8. FECA Employee Benefits

FECA Employee Benefits consisted of the following components as of September 30, 2002 and 2001:

(Amounts in Thousands)

	<u>2002</u>	<u>2001</u>
Intragovernmental: Unreimbursed Actual Costs	\$ 254	\$ 296
Estimated Liability	1,637	1,806
Total Workers' Compensation Benefits	<u>\$ 1,891</u>	<u>\$ 2,102</u>

For FYs 2002 and 2001, these amounts represent \$253,872 and \$296,462 respectively, of unreimbursed cost to the DOL for actual compensation paid to recipients under FECA. FECA provides income and medical cost protection to cover federal employees injured on the job or who have a work-related injury or occupational disease, and beneficiaries of employees whose death is attributable to a job related injury or occupational disease. The DOL initially pays valid claims and then bills the employing federal agency.

As of September 30, 2002 and 2001, the estimated liability of \$1,637,000 and \$1,806,000, respectively, are for future worker compensation claims calculated by DOL and includes the expected liability for death, disability, medical, and miscellaneous costs for approved compensation cases. The liability is determined using a method that utilizes historical benefit payment patterns related to a specific incurred period and annual benefit payments discounted to present value using OMB's economic assumptions for 10-year Treasury notes and bonds. To

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account for the effects of inflation on the liability, wage and medical inflation factors are applied to the calculation of future benefits.

Note 9. Lease Liabilities

NSF maintains capital leases for certain equipment. The lease periods range from four to five years and the capitalized cost of the lease payments are amortized over the life of the lease. As of September 30, 2002 and 2001, the capitalized cost of equipment under lease was approximately \$151,000 and \$797,000, respectively. Related accumulated amortization as of September 30, 2002 and 2001 was approximately \$102,000 and \$372,000, respectively. Capital lease liabilities are considered unfunded as of September 30, 2002 and 2001. As of September 30, 2001, the total Capital Lease Liability was \$451,000. Future payments under capital leases as of September 30, 2002 are:

(Amounts in Thousands)

Future Lease Payments:		
	Fiscal Year 2003	40
	Fiscal Year 2004	21
	Fiscal Year 2005	5
		<hr/>
Total		66
Less: Imputed Interest		6
		<hr/>
Total Capital Lease Liability	\$	<u>60</u>

Note 10. Unexpended Appropriations

Unexpended Appropriations consisted of the following components as of September 30, 2002 and 2001:

(Amounts in Thousands)

		<u>2002</u>		<u>2001</u>
Unobligated:				
Available	\$	193,078	\$	135,058
Unavailable		91,095		86,539
Undelivered Orders		5,804,945		5,121,949
		<hr/>		<hr/>
Total Unexpended Appropriations	\$	<u>6,089,118</u>	\$	<u>5,343,547</u>

The Undelivered Orders balance, in the above table, does not include the Undelivered Orders balances of the Trust Fund account because trust funds are not appropriated funds. Total undelivered orders, including that of trust funds, as of September 30, 2002 and 2001 amounted to \$5,945,214 and \$5,138,405, respectively.

Note 11. Statements of Net Cost

Major Program Descriptions

NSF's primary business is to make merit-based grants and cooperative agreements to individual researchers and groups, in partnership with colleges, universities, and other public, private, state, local, and federal institutions, throughout the U.S. By providing these resources, NSF contributes to the health and vitality of the U.S. research and education enterprise, which enables and enhances the Nation's capacity to sustain growth and prosperity. These grants are managed through eight programmatic organizations within NSF that review and evaluate competitive proposals submitted by the science and engineering community for its consideration.

NSF is a single entity for net cost reporting purposes. The NSF programmatic organizations are the Directorates for the Biological Sciences; Computer and Information Science and Engineering; Education and Human Resources; Engineering; Geosciences; Mathematical and Physical Sciences; Social, Behavioral and Economic Sciences; and the Office of Polar Programs.

The Statement of Net Cost is aligned with NSF's strategic goals of People, Ideas, and Tools (PIT). These goals are outlined in NSF's Strategic Plan for 2001-2006 (www.nsf.gov/od/grpa) and in NSF's FY 2002 Budget Request (www.nsf.gov/bfa).

In pursuit of its mission, NSF makes investments in People, Ideas, and Tools. These goals reflect outcomes at the heart of the research enterprise: a world-class science and engineering workforce (People); the generation of new knowledge across the frontiers of science and engineering (Ideas); and the (Tools); to get the job done efficiently and effectively. People produce the Ideas that are the currency of the new knowledge-based economy. The need for more sophisticated Tools has paralleled recent advances in science and engineering, creating a growing demand for access to them. NSF's overall strategy is to invest in state-of-the-art tools that add unique value to research and are accessible and widely shared among researchers across the nation.

Approximately 95 percent of NSF's investments are directly related to the People, Ideas, and Tools (PIT) strategic areas of focus. About five percent of NSF's investments are for support of management and administrative activities. All investment costs are assigned to the three strategic PIT areas.

In FYs 2001 and 2002, management and administration activities include Salary & Expenses and Office of Inspector General (OIG) expenses which provide for salaries and benefits of persons employed at the NSF; general operating expenses, including key activities to advance the NSF information systems technology and to enhance staff training, audit and OIG activities, and OPM and DOL benefits costs paid on behalf of NSF. These indirect costs are allocated to NSF programs based on each program's direct costs.

In accordance with OMB Bulletin 01-09, *Form and Content of Agency Financial Statements*, costs incurred for services provided by other federal entities are reported in the full costs of NSF programs and are identified as "intragovernmental." All earned revenues are funding sources 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

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For the Years Ended September 30, 2002 and 2001*

and are deducted from the full cost of the programs to arrive at the net cost of operating NSF's programs.

Gross Cost and Earned Revenue by Budget Functional Classification

Total Gross Cost and Earned Revenue by Budget Functional Classification for FYs 2002 and 2001 were as follows:

(Amounts in Thousands)

		<u>2002</u>	
<u>Budget Functional Classification</u>	<u>Gross Cost</u>	<u>Earned Revenue</u>	<u>Net Cost</u>
NSF – General Science, Space and Technology (Code 250)	\$ 4,237,468	105,202	\$ 4,132,266

		<u>2001</u>	
<u>Budget Functional Classification</u>	<u>Gross Cost</u>	<u>Earned Revenue</u>	<u>Net Cost</u>
NSF – General Science, Space and Technology (Code 250)	\$ 3,779,370	\$ 81,229	\$ 3,698,141

Intra-governmental Gross Cost and Earned Revenue by Budget Functional Classification

Intra-governmental Gross Cost and Earned Revenue by Budget Functional Classification for FYs 2002 and 2001 were as follows:

(Amounts in Thousands)

		<u>2002</u>	
<u>Budget Functional Classification</u>	<u>Gross Cost</u>	<u>Earned Revenue</u>	<u>Net Cost</u>
NSF – General Science, Space and Technology (Code 250)	\$ 114,981	\$ 105,202	\$ 9,779

		<u>2001</u>	
<u>Budget Functional Classification</u>	<u>Gross Cost</u>	<u>Earned Revenue</u>	<u>Net Cost</u>
NSF – General Science, Space and Technology (Code 250)	\$ 125,823	\$ 81,229	\$ 44,594

Note 12. Budget Authority

Budget Authority includes \$32,693,473 and \$28,093,355 of donations and interest as of September 30, 2002 and 2001, respectively. Budget Authority was increased for non-expenditure transfers from the U.S. Agency for International Development for \$14,000,000 in 2002, and \$14,000,000 in 2001. Budget Authority as of September 30, 2002 and 2001 was also adjusted for Congressional initiated rescissions contained in P.L. 107-206 totaling \$314,000 and P.L. 106-554 totaling \$9,736,000, respectively.

NSF maintains permanent indefinite appropriations for Research and Related Activities - 49x0100, Major Research Equipment - 49x0551, H-1B Nonimmigrant Petitioner fees - 49x5176, and Trust Fund donations - 49x8960.

The status of Budgetary Resources as of September 30, 2002, consisted of Budgetary Resources obligated of \$4,953,634,607, available authority of \$213,343,532 and unavailable authority of \$91,473,438.

Note 13. Commitments and Contingencies

Unasserted Claims

NSF has been informed of potential contractor claims for additional compensation under a contract, awarded by the United States Air Force, for reconfiguration of three NSF-owned aircraft. NSF will work with the Air Force to determine the validity of the contractor's claims and to assert counterclaims. It is NSF's opinion that payment of some additional compensation is probable. Since the claims have not been formally presented, documented and assessed, the amount of additional compensation has not been determined.

Environmental Costs

NSF manages the U.S. Antarctic Program. The Antarctic Conservation Act and its implementing regulations impose requirements for environmental cleanup in the Antarctica. NSF continually monitors the U.S. Antarctic Program in regards to environmental issues.

A significant project that NSF is currently undertaking is limited clean up of a former research station at Cape Hallett, in cooperation with Antarctic New Zealand. The station was jointly operated by the U.S. and New Zealand from 1957 to 1973. In the past year, progress has been made in determining the scope of the effort that will need to be undertaken to assess cleanup activities. This assessment effort is being planned over the next two years. At present, the full extent of the clean up activities required at Cape Hallett has yet to be determined in the context of the Antarctic Conservation Act.

Note 14. Statement of Financing Disclosures

Explanation of the Relationship Between Liabilities Not Covered by Budgetary Resources on the Balance Sheet and the Change in Components Requiring or Generating Resources in Future Periods.

Liabilities Not Covered by Budgetary Resources of \$12,518 million and \$12,213 million for FY 2002 and 2001, respectively, represent NSF's FECA liability to DOL and employees, leave earned but not taken and lease liabilities. The amount reported on the Statement of Financing as Total Components of Net Cost of Operations that will Require or Generate Resources in Future Periods of \$516,000 for FY 2002, represents the change in NSF's expenses for unfunded liabilities for FECA, leave earned but not taken and lease liabilities.

Required Supplementary Information
Budgetary Resources by Major Budgetary Accounts

In the following table, NSF budgetary information for the fiscal years ended September 30, 2002, as presented in the Statement of Budgetary Resources, is disaggregated for each of NSF's major budgetary accounts.

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Required Supplementary Information
For the Year Ended September 30, 2002*

(Amounts in Thousands)

	<u>Research and Related</u>	<u>Education</u>	<u>Major Research Equipment</u>	<u>OIG and Salary Expense</u>	<u>Total</u>
Budgetary Resources					
Budget Authority:					
Appropriations Received	\$ 3,631,333	955,339	138,800	176,800	\$ 4,902,272
Net Transfers	13,664	-	-	336	14,000
Unobligated Balances – Beginning of Period	68,801	95,184	73,093	2,194	239,272
Spending Authority from Offsetting Collections:					
Earned:					
Collected	96,322	10,214	-	4,662	111,198
Receivable from Federal Sources	(4,976)	-	-	(427)	(5,403)
Change in Unfilled Customer Orders:					
Advance Received	(5,807)	(8,785)	-	(2)	(14,594)
Without Advance from Federal Sources	(5,316)	-	-	(7)	(5,309)
Subtotal	80,223	1,429	-	4,240	85,892
Recoveries of Prior Year Obligations	31,492	14,115	10	1,475	47,092
Permanently Not Available	(19,102)	(9,596)	-	(1,378)	(30,076)
Total Budgetary Resources	<u>\$ 3,806,411</u>	<u>1,056,471</u>	<u>211,903</u>	<u>183,667</u>	<u>\$ 5,258,452</u>
Status of Budgetary Resources					
Obligations Incurred:					
Direct	\$ 3,649,039	927,135	115,352	176,809	\$ 4,868,335
Reimbursable	80,051	1,164	-	4,085	85,300
Subtotal	3,729,090	928,299	115,352	180,894	4,953,635
Unobligated Balances:					
Apportioned	23,479	92,982	96,541	342	213,344
Unobligated Balances Not Available	53,842	35,190	10	2,431	91,473
Total Status of Budgetary Resources	<u>\$ 3,806,411</u>	<u>1,056,471</u>	<u>211,903</u>	<u>183,667</u>	<u>\$ 5,258,452</u>
Relationship of Obligations to Outlays					
Net Obligated Balance – Beginning of Period	\$ 3,996,637	1,300,605	158,613	24,957	\$ 5,480,812
Net Obligated Balance – End of Period					
Accounts Receivable	(66)	-	-	(118)	(184)
Unfilled Customer Orders from Federal Sources	(2,499)	-	-	(7)	(2,506)
Undelivered Orders	4,273,299	1,457,364	131,030	10,689	5,872,382
Accounts Payable	181,805	41,900	6,388	14,838	244,931
Total Net Obligated Balance – End of Period	<u>4,452,539</u>	<u>1,499,264</u>	<u>137,418</u>	<u>25,402</u>	<u>6,114,623</u>
Outlays					
Disbursements	3,251,979	715,526	136,538	179,393	4,283,436
Collections	(90,515)	(1,430)	-	(4,660)	(96,605)
Subtotal	3,161,464	714,096	136,538	174,733	4,186,831
Less: Offsetting Receipts	32,693	-	-	-	32,693
Net Outlays	<u>\$ 3,128,771</u>	<u>714,096</u>	<u>136,538</u>	<u>174,733</u>	<u>\$ 4,154,138</u>

Required Supplementary Information
Intragovernmental Balances and Deferred Maintenance

*National Science Foundation
 Required Supplementary Information
 For the Years Ended September 30, 2002 and 2001*

Intragovernmental Assets by Partner Agency (Unaudited)

Intragovernmental assets on this schedule support the intragovernmental asset line items on NSF's Balance Sheets as of September 30, 2002 and 2001. Intragovernmental balances included in Fund Balance with Treasury as of September 30, 2002 and 2001, consisted of the following:

(Amounts in Thousands)

<u>Agency</u>	<u>2002</u>	<u>2001</u>
Department of the Treasury	\$ 6,419,409	\$ 5,719,993
Department of State	291	318
Total	<u>\$ 6,419,700</u>	<u>\$ 5,720,311</u>

Intragovernmental Accounts Receivable balances as of September 30, 2002 and 2001, consisted of the following:

<u>Agency</u>	<u>2002</u>	<u>2001</u>
Department of the Air Force	\$ -	\$ 5,155
Department of Defense	89	206
Department of the Navy	-	185
U.S. Army Corp. Of Engineers	-	24
Department of the Army	-	18
Central Intelligence Agency	96	-
Total	<u>\$ 185</u>	<u>\$ 5,588</u>

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Intragovernmental Liabilities by Partner Agency (Unaudited)

Agency	2002			2001		
	Advances From Others	Other Liabilities	Employee Benefits	Advances from Others	Other Liabilities	Employee Benefits
Department of Education	\$ 26,323	\$ -	\$ -	\$ 34,639	\$ -	\$ -
National Aeronautics and Space Administration	15,181	-	-	22,499	-	-
Department of Health and Human Services	17,080	-	-	19,022	-	-
Department of Energy	9,920	-	-	11,017	-	-
Department of Commerce	5,890	-	-	6,072	-	-
Office of the Secretary – Defense Agencies	6,059	-	-	5,664	-	-
Department of the Army	853	-	-	2,813	-	-
Department of Housing and Urban Development	1,675	-	-	1,922	-	-
Environmental Protection Agency	1,015	-	-	1,683	-	-
Department of the Air Force	4,193	-	-	1,618	-	-
Department of Transportation	1,320	-	-	1,490	-	-
General Services Administration	358	-	-	1,049	-	-
Department of Agriculture	773	-	-	999	-	-
Department of the Interior	432	-	-	891	-	-
Department of State	718	-	-	677	-	-
Department of the Navy	2,805	-	-	608	-	-
National Foundation on the Arts and Humanities	107	-	-	443	-	-
National Archives and Records Administration	744	-	-	414	-	-
Department of Labor	395	-	254	331	-	296
Department of Justice	369	-	-	327	-	-
Federal Emergency Management Agency	258	-	-	277	-	-
Department of the Treasury	180	-	-	180	-	-
Central Intelligence Agency	2,840	-	-	126	-	-
Office of Personnel Management	-	321	-	-	244	-
Other	1,043	-	-	364	-	-
Total	\$ 100,531	\$ 321	\$ 254	\$ 115,125	\$ 244	\$ 296

Deferred Maintenance (Unaudited)

NSF performs condition assessment surveys of 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. Also, deferred maintenance 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. Maintenance is not considered deferred if an asset is classified as non-critical and non-operational.

NSF considered whether any scheduled maintenance necessary to keep fixed assets of the agency in an acceptable condition was deferred at the end of FYs 2002 and 2001. NSF defines acceptable operating condition in accordance with standards comparable to those used in the private industry.

In FY 2001, NSF determined that scheduled maintenance on twelve items of equipment was not completed and was deferred or delayed for a future period. The items included, four pieces of heavy mobile equipment, seven pieces of light mobile equipment and one generator. All the equipment was considered to be in fair condition and critical to NSF's operations. NSF estimated that the equipment would require \$84,050 in maintenance.

During FY 2002, NSF completed the maintenance deferred from FY 2001. In addition, NSF determined that scheduled maintenance on 99 items of Antarctic equipment was not completed and was deferred or delayed for a future period. The largest dollar amount of deferred maintenance for any single item approximated \$5,000. The items included light and heavy mobile equipment with a few items of power distribution and shop equipment. 81 items were rated to be in fair condition and 18 were rated to be in poor condition. All of the equipment is considered critical to NSF operations and estimated to require \$60,470 in maintenance.

Required Supplementary Stewardship Information
Stewardship Investments

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Required Supplementary Stewardship Information
For the Years Ended September 30, 2002 and 2001*

**Stewardship Investments
Research and Human Capital**

(Amounts in Thousands)
(Unaudited)

	<u>2002</u>	<u>2001</u>	<u>2000</u>	<u>1999</u>
Research and Human Capital Activities				
Basic Research	\$ 3,092,060	\$ 2,692,243	\$ 2,636,518	\$ 2,507,569
Applied Research	193,788	211,421	173,670	188,742
Education and Training	767,734	704,949	596,517	599,323
Non-Investing Activities	<u>183,887</u>	<u>170,757</u>	<u>162,021</u>	<u>143,980</u>
Total Research and Human Capital Activities	<u>\$ 4,237,469</u>	<u>\$ 3,779,370</u>	<u>\$ 3,568,726</u>	<u>\$ 3,439,614</u>
Inputs, Outputs and/or Outcomes				
Research and Human Capital Activities				
<u>Investments In:</u>				
Universities	\$ 2,919,897	\$ 2,631,405	\$ 2,470,300	\$ 2,385,492
Industry	185,062	162,176	160,573	154,555
Federal Agencies	106,458	125,823	132,790	150,959
Small Businesses	144,844	130,977	119,345	110,884
Others	881,208	728,989	685,718	637,724
	<u>\$ 4,237,469</u>	<u>\$ 3,779,370</u>	<u>\$ 3,568,726</u>	<u>\$ 3,439,614</u>
<u>Support to:</u>				
Scientists	\$ 394,144	\$ 355,261	\$ 359,228	\$ 350,841
Postdoctoral Programs	148,334	128,499	117,504	120,386
Graduate Students	402,620	362,820	315,583	323,324
	<u>\$ 945,098</u>	<u>\$ 846,580</u>	<u>\$ 792,315</u>	<u>\$ 794,551</u>
<u>Outputs & Outcomes:</u>				
<u>Number of:</u>				
Awards	21,182	20,357	19,673	19,518
Years of Sr. Research Support	5,582	5,759	5,518	5,054
Senior Researchers Supported	28,005	27,215	24,134	23,108
Other Professionals	11,000	9,904	8,471	8,869
Postdoctorals Supported	5,563	5,576	4,781	4,391
Graduate Students Supported	25,965	25,479	21,663	20,156
Undergraduate Students	32,000	31,044	29,849	28,775
K – 12 Students	11,000	11,335	11,598	12,370
K – 12 Teachers	84,000	83,401	82,999	89,640

NSF's role in achieving performance goals in science and engineering leads to investments in integrative research and human capital activities to enhance the potential for important discoveries or new knowledge with expected future benefits to our society. Because of the close connections between the investments in performing research and building a research base of skilled scientist and engineers through academic and training opportunities, expenses incurred by NSF are presented as overall stewardship investments for NSF for performance measurement. The outputs and outcomes of NSF investments in the research and academic community resulted in a number of grants awarded, and scientists and students supported.

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



**OFFICE OF
INSPECTOR GENERAL**

January 29, 2003

To: Dr. Warren M. Washington
Chairman, National Science Board

Dr. Rita Colwell
Director, National Science Foundation

From: Christine C. Boesz, Dr. P.H.
Inspector General

Subject: Audit of the National Science Foundation's
Fiscal Years 2002 and 2001 Financial Statements

This memorandum transmits KPMG LLP's report on its Fiscal Years 2002 and 2001 financial statement audit of the National Science Foundation (NSF).

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 the Foundation's financial statements. Under a contract monitored by the Office of Inspector General (OIG), KPMG, an independent public accounting firm, performed an audit of NSF's Fiscal Years 2002 and 2001 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 01-02, *Audit Requirements for Federal Financial Statements*, issued by the United States Office of Management and Budget.

KPMG issued an unqualified opinion on NSF's financial statements. In its Report on Internal Controls Over Financial Reporting, KPMG identified two reportable conditions relating to (1) post-award procedures for monitoring awardees' administrative and financial management practices and tracking of NSF-owned property, plant and equipment in the custody of awardees, and (2) entity-wide information security. KPMG also reported that NSF's financial management systems substantially complied with the requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA), and found no reportable noncompliance with laws and regulations it tested.

NSF management generally concurs with the findings regarding each of the reportable conditions. However, they do not believe that the identified conditions are significant deficiencies that would rise to the level of reportable conditions. Management's response dated January 10, 2003, follows KPMG's report.

Evaluation of KPMG's Audit Performance

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

- Reviewed KPMG's approach and planning of the audit;
- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the audit at key points;
- Examined working papers related to assessing internal controls over NSF's financial reporting process;
- Coordinated periodic meetings with NSF management to discuss audit progress, findings and recommendations;
- Reviewed KPMG's audit report to ensure compliance with Government Auditing Standards and Office of Management and Budget Bulletin No. 01-02;
- Coordinated issuance of the audit report; and
- Performed other procedures that we deemed necessary.

Due to the timing for completing the NSF Fiscal Year 2002 Accountability Report, we have not yet completed our review of the working papers prepared by KPMG.

Our review, as differentiated from an audit in accordance with auditing standards generally accepted in the United States of America, was not intended to enable us to express, and accordingly we do not express, an opinion on: NSF's financial statements and report on NSF's internal control over financial reporting; or whether NSF's financial management systems substantially complied with FFMIA; or conclusions on compliance with laws and regulations. KPMG is responsible for the attached auditor's report, dated December 20, 2002, and the conclusions expressed therein. However, our review disclosed no instances where KPMG did not comply, in all material respects, with auditing standards generally accepted in the United States of America.

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

Attachment

cc: Dr. Mark S. Wrighton, Chair, Audit and Oversight Committee

INDEPENDENT AUDITORS' REPORT

Dr. Warren M. Washington
Chairman, National Science Board

Dr. Rita Colwell
Director, National Science Foundation

We have audited the accompanying balance sheets of the National Science Foundation (NSF) as of September 30, 2002 and 2001, and the related statements of net cost for the years then ended, and the statements of changes in net position, budgetary resources, and financing for the year ended September 30, 2002. The objective of our audits was to express an opinion on the fair presentation of these financial statements. In connection with our audits, we also considered NSF's internal control over financial reporting and tested NSF's compliance with certain provisions of applicable laws and regulations that could have a direct and material effect on its financial statements.

SUMMARY

As stated in our opinion on the financial statements, we concluded that NSF's balance sheets as of September 30, 2002 and 2001, and the related statements of net cost for the years then ended, and the statements of changes in net position, budgetary resources, and financing for the year ended September 30, 2002 are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America.

Our consideration of internal control over financial reporting resulted in the following conditions being identified as reportable conditions:

- ***Post-award Management*** - Procedures for monitoring (i) awardees' administrative and financial management practices and compliance with laws and regulations, and (ii) NSF-owned property, plant and equipment in awardees' custody, while improved in fiscal year 2002, are not adequate.
- ***Information Security*** – Weaknesses continued to exist in fiscal year 2002 in the areas of access controls, security management structure, and certification and accreditation of major systems.

However, neither of the reportable conditions are believed to be material weaknesses.

The results of our tests of compliance with laws and regulations disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards*, issued by the Comptroller General of the United States, or Office of Management and Budget (OMB) Bulletin 01-02, *Audit Requirements for Federal Financial Statements*.

NSF management generally concurs with the findings. However, they disagree with the designation of these matters as reportable conditions. Management's response dated January 10, 2003, follows this report.

The following sections discuss our opinion on NSF's financial statements, our consideration of NSF's internal control over financial reporting, our tests of NSF's compliance with certain provisions of applicable laws and regulations, and management's and our responsibilities.

OPINION ON THE FINANCIAL STATEMENTS

We have audited the accompanying balance sheets of the National Science Foundation as of September 30, 2002 and 2001, and the related statements of net cost for the years then ended, and the statements of changes in net position, budgetary resources, and financing for the year ended September 30, 2002.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the National Science Foundation as of September 30, 2002 and 2001, and its net cost for the years then ended, and the changes in net position, budgetary resources, and reconciliation of net cost to budgetary obligations for the year ended September 30, 2002, in conformity with accounting principles generally accepted in the United States of America.

The information in the *Management's Discussion and Analysis, Required Supplementary Stewardship Information, and Required Supplementary Information* sections is not a required part of the financial statements but is supplementary information required by accounting principles generally accepted in the United States of America or OMB Bulletin No. 01-09, *Form and Content of Agency Financial Statements*. We have applied certain limited procedures, which consisted principally of inquiries of management, regarding the methods of measurement and presentation of this information. However, we did not audit this information, and accordingly, we express no opinion on it. Based upon our limited procedures, we determined that NSF could not complete the intragovernmental balance reconciliations with its governmental trading partners, as required by OMB Bulletin No. 01-09, because, although NSF issued confirmations to its major partners, such partners did not respond with adequate information to assist in reconciling such balances.

INTERNAL CONTROL OVER FINANCIAL REPORTING

Our consideration of internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be reportable conditions. Under standards issued by the American Institute of Certified Public Accountants, reportable conditions are matters coming to our attention relating to significant deficiencies in the design or operation of the internal control over financial reporting that, in our judgment, could adversely affect NSF's ability to record, process, summarize, and report financial data consistent with the assertions by management in the financial statements.

Material weaknesses are reportable conditions in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements, in amounts that would be material in relation to the financial statements being audited, may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

In our fiscal year 2002 audit, we noted certain matters, described in Exhibit 1, involving the internal control over financial reporting and its operation that we consider to be reportable conditions. However, none of the reportable conditions are believed to be material weaknesses.

A summary of the status of prior year reportable conditions is included as Exhibit 2.

We also noted other matters involving internal control over financial reporting and its operation that we have reported to the management of NSF in a separate letter dated December 20, 2002.

COMPLIANCE WITH LAWS AND REGULATIONS

The results of our tests of compliance with certain provisions of laws and regulations, as described in the Auditors' Responsibilities section of this report, exclusive of FFMIA, disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards* or OMB Bulletin No. 01-02.

The results of our tests of compliance with FFMIA disclosed no instances in which NSF's financial management systems did not substantially comply with Federal financial management system requirements, applicable Federal accounting standards, or the United States Government Standard General Ledger at the transaction level.

We noted other matters involving compliance with laws and regulations that, under *Government Auditing Standards* and OMB Bulletin No. 01-02, were not required to be included in this report, that we have reported to the management of NSF in a separate letter dated December 20, 2002.

RESPONSIBILITIES

Management's Responsibilities. The Government Management Reform Act (GMRA) of 1994 requires Federal agencies to report annually to Congress on their financial status and any other information needed to fairly present the agencies' financial position and results of operations. To meet the GMRA reporting requirements, NSF prepares annual financial statements.

Management is responsible for:

- Preparing the financial statements in conformity with accounting principles generally accepted in the United States of America;

- Establishing and maintaining internal controls over financial reporting, and preparation of the Management's Discussion and Analysis (including the performance measures), required supplementary information, and required supplementary stewardship information; and
- Complying with laws and regulations, including FFMIA.

In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal control policies. Because of inherent limitations in internal control, misstatements, due to error or fraud may nevertheless occur and not be detected.

Auditors' Responsibilities. Our responsibility is to express an opinion on the financial statements of NSF based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*; and OMB Bulletin No. 01-02. Those standards and OMB Bulletin No. 01-02 require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes:

- Examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements;
- Assessing the accounting principles used and significant estimates made by management; and
- Evaluating the overall financial statement presentation.

We believe that our audits provide a reasonable basis for our opinion.

In planning and performing our fiscal year 2002 audit, we considered NSF's internal control over financial reporting by obtaining an understanding of the design of NSF's internal control, determining whether internal controls had been placed in operation, assessing control risk, and performing tests of controls in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements. We limited our internal control testing to those controls necessary to achieve the objectives described in OMB Bulletin No. 01-02 and *Government Auditing Standards*. We did not test all internal controls relevant to operating objectives as broadly defined by the Federal Managers' Financial Integrity Act of 1982. The objective of our audit was not to provide assurance on NSF's internal control over financial reporting. Consequently, we do not provide an opinion on internal control over financial reporting.

As required by OMB Bulletin No. 01-02, we considered NSF's internal control over required supplementary stewardship information by obtaining an understanding of NSF's internal control, determining whether these internal controls had been placed in operation, assessing

control risk, and performing tests of controls. Our procedures were not designed to provide assurance on internal control over required supplementary stewardship information, and, accordingly, we do not provide an opinion thereon.

As further required by OMB Bulletin No. 01-02, with respect to internal control related to performance measures determined by management to be key and reported in *Management's Discussion and Analysis*, we obtained an understanding of the design of significant internal controls relating to the existence and completeness assertions and determined whether they had been placed in operation. Our procedures were not designed to provide assurance on internal control over reported performance measures, and, accordingly, we do not provide an opinion on such controls.

As part of obtaining reasonable assurance about whether the NSF's fiscal year 2002 financial statements are free of material misstatement, we performed tests of NSF's compliance with certain provisions of laws and regulations, noncompliance with which could have a direct and material effect on the determination of the financial statement amounts, and certain provisions of other laws and regulations specified in OMB Bulletin No. 01-02, including certain requirements referred to in FFMIA. We limited our tests of compliance to these provisions described in the preceding sentence, and did not test compliance with all laws and regulations applicable to NSF. Providing an opinion on compliance with laws and regulations was not an objective of our audit, and, accordingly, we do not express such an opinion.

Under OMB Bulletin No. 01-02 and FFMIA, we are required to report whether NSF's financial management systems substantially comply with (1) Federal financial management systems requirements, (2) applicable Federal accounting standards, and (3) the United States Government Standard General Ledger at the transaction level. To meet this requirement, we performed tests of compliance with FFMIA Section 803(a) requirements.

DISTRIBUTION

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

December 20, 2002

Fiscal Year 2002 Reportable Conditions

02-01 Post-award Management

The National Science Foundation (NSF) awards grants that are intended to promote and advance scientific progress in the United States. NSF awards grants to various organizations, including colleges and universities, non-profit organizations, state and local governments, Federally Funded Research and Development Centers, and private entities. Through an award, NSF enters into a relationship to fund a particular research activity conducted by a grantee. NSF expends approximately 90 percent of its appropriated funds on grants in a given year and at any point in time NSF staff is administering as many as 32,000 active awards.

A. Financial Monitoring of Grant Awards

In our FY 2001 audit, we reported that even though NSF has a robust system of award management over its pre-award and award phases, NSF did not have a comprehensive and systematic risk-based internal grants management program to monitor its post-award phase. Over the years, NSF has utilized an award management system that strikes a careful balance of invested resources and oversight through an integrated process involving programmatic, financial and administrative staff. NSF's award management system includes a financial and administrative monitoring component, including the submission of federal cash transaction reports throughout the award continuum, but post-award monitoring is not systematic, risk-based, documented in writing, or consistently applied. In addition, NSF's awards are becoming larger, more cross-disciplinary and more complex in nature. Federal requirements are increasingly calling for improved accountability for federal entities and their awardees.

NSF made progress in FY 2002 developing corrective actions in response to the weaknesses we identified in FY 2001. NSF's corrective actions included the development of: (1) a Risk Assessment and Award Monitoring Guide (the Guide) issued in September 2002 that includes post-award monitoring policies and procedures; (2) a systematic risk assessment process for classifying and identifying high risk grantees; and (3) various grantee analysis techniques. NSF's next step is to implement its new post-award management policies and procedures. However, our review of NSF's corrective actions revealed that NSF needs to further improve its newly established post-award monitoring procedures before effective monitoring can take place. Specifically:

- The proposed post-award monitoring policies and procedures are not comprehensive. The Guide lacks detailed steps to guide the reviewer, and does not address matters such as who will conduct the on-site field reviews, the manner in which they will be done, or what types of field reviews will be conducted on high risk and other grantees, as well as documentation standards for grant files.
- The criteria developed for identifying high risk grantees are limited and do not include all potential risk characteristics. In addition, the number of high risk grantees appears negligible in comparison to the NSF grantee portfolio. Further, the Guide addresses desk

and site reviews only for high-risk grantees, and does not provide guidance for the management of the majority of NSF awards.

- Analysis techniques have not been developed for key financial risk areas and the techniques currently prescribed do not provide sufficient detail to ensure that grantee internal controls are adequate and effective.
- Although on-site field reviews of grantees are currently conducted, reviews have not been consistently conducted, documented, or reported.
- There are no follow-up procedures to address concerns raised by NSF Program personnel.

NSF management is considering revisions to the Guide to incorporate additional procedures, monitoring tools, and best practices to strengthen the oversight activity.

As a result of the above weaknesses, awardees' use of Federal funds may not be consistent with the objectives of the grant; programs and resources may not be protected from waste, fraud, and mismanagement; laws and regulations may not be followed; and reliable and timely information may not be obtained, maintained, reported, or used for decision-making. Additionally, since NSF grantee expenditures represent approximately 90 percent of total NSF expenditures for the year, the integrity and accuracy of grantee expenditures recorded by NSF may be compromised. NSF's Office of Inspector General (NSF OIG) Semiannual reports continue to reveal material non-compliance with Federal regulations and awardee terms and conditions and material internal control weaknesses at awardee institutions.

NSF is responsible for ensuring that grantees comply with applicable laws and regulations related to the administration of the respective grant awards, including those related to Federal cash management requirements. Office of Management and Budget (OMB) Circular A-133, *Audits of States, Local Governments and Non Profit Organizations*, audits leave the identification of major programs, which are the only programs subject to compliance testing, to the judgment of the grantees' independent auditors. Consequently, there is no assurance that NSF's programs will be selected for review during these audits. Further, some of NSF's grantees fall below the \$300,000 threshold of Federal expenditures that trigger an audit under OMB Circular A-133 requirements. Therefore, a combination of an internal program of grantee oversight, including risk-based site visits to review grantee financial management compliance, and review of OMB Circular A-133 audit reports, is required to ensure that effective grantee oversight is maintained.

Recommendations

We recommend that NSF:

1. Include additional policies and procedures in the Risk Assessment and Award Monitoring Guide as follows:
 - (i) Monitoring procedures should require that an Annual Plan be developed to identify the grant recipients to be evaluated;

- (ii) On-site field review procedures should include a description of who will conduct the review, the manner in which it will be done, and the type of review activities that should be conducted on each grantee depending on the type and level of risk;
 - (iii) Documentation procedures should provide guidance on documentation standards and require reviewers to maintain documentation in grant files on their monitoring activities in terms of what documentation was reviewed, what questions were asked, what responses were received, what corrective actions resulted, etc.;
 - (iv) Guidance should be included for reporting, response and follow up requirements between NSF Program Officials, on-site reviewers, and grantees. These procedures should also include established timeframes for providing feedback to both the grantee and responsible NSF Program Officials on deficiencies identified and reports issued; and
 - (v) Reporting procedures for on-site field review reports should be established to ensure information is consistently and accurately reported by all reviewers who are responsible for issuing on-site review reports.
2. Develop additional criteria for identifying high risk grantees. Other risk characteristics that should be considered include poor financial management, poor past performance etc.
 3. Develop additional analysis techniques to aid in the evaluation of key financial risk areas and to ensure consistency in the procedures conducted. These analysis techniques should be comprehensive enough to guide the reviewer and ensure that specific financial objectives are achieved.
 4. Establish a program for follow-up procedures to address concerns raised by NSF Program personnel.
 5. Provide training to on-site evaluators in post-award monitoring procedures prior to conducting on-site evaluations.

B. Monitoring of Assets Owned by NSF in the Custody of Other Entities

Funds provided by NSF to its grantees are used in certain cases to purchase or construct Property, Plant, and Equipment (PP&E) to be used by the grantee for operations or research on the projects or programs sponsored by NSF. In most cases, the title of the asset transfers to the grantee, however, in some cases, NSF retains ownership of the PP&E. Although certain procedures are in place to monitor these assets, significant improvement of current policies and procedures is necessary to ensure that such assets are protected from loss, misuse, or theft, and that reliable and timely information is obtained on the value of these assets.

OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*, requires,

among other things, that grantees comply with the property management standards prescribed. However, NSF has not reviewed grantee compliance with these property management standards. Further, there are no on-site field review procedures currently in existence within NSF to assess the existence and condition of these assets.

Inadequate monitoring of PP&E could result in potential loss, misuse, or theft of NSF-owned PP&E in the custody of others as well as misstatement of the PP&E held by others that is disclosed in the notes to the NSF financial statements. NSF is responsible for ensuring that its grantees comply with applicable laws and regulations related to the administration of the respective grant awards. In order to ensure proper accountability and to meet reporting requirements, grantee oversight that includes site visits to review grantee financial management compliance is needed to ensure that recipients comply with property management standards as prescribed in OMB Circular A-110.

Recommendation

We recommend that NSF develop procedures to periodically confirm the existence and condition of NSF assets in the custody of awardees. These procedures should be carried out in conjunction with other grant monitoring activities conducted during grantee site visits. Grantee's property management systems must also be reviewed during site visits to ensure compliance with OMB Circular A-110 property management standards.

02-02 Information Security

NSF faces the challenging task of maintaining an open and distributed computing environment and at the same time protecting its critical information assets against unauthorized access and misuse.

During the FY 2001 audit, we noted several weaknesses in NSF's information security program related to application security design, database security, intrusion detection, network infrastructure security, file sharing, remote access, access to certain application source code, physical access, and administration of access privileges.

NSF has made progress in correcting many of the weaknesses identified in FY 2001, however, significant deficiencies continued in FY 2002 in the areas of access controls, security management structure, and certification and accreditation of major systems. NSF's control environment taken as a whole, provides a number of mitigating controls, however, these weaknesses posed a variety of risks which include potential unauthorized access to and modification of financial, programmatic, and other sensitive information; loss of assets; disruption of critical operations; and the ensuing costs associated with business downtime and recovery.

Due to the sensitive nature of these matters, details concerning these findings were provided separately to NSF management.

In the last quarter of FY 2002, NSF completed several noteworthy improvements to its security program to include:

- Improving the IT security management structure by establishing an NSF entity-wide Security Officer position; assigning distinct responsibilities and authorities to the Director of the Office of Information Resource Management, Chief Information Officer, and NSF Security Officer; and making plans to establish a security management advisory group;
- Taking immediate action on correcting security vulnerabilities identified on certain critical servers;
- Implementing a security awareness training program;
- Issuing an IT security policy and handbook that describe information security responsibilities and best practices to be followed;
- Authorizing operation for 10 major systems by providing “Interim Approvals to Operate;” and
- Drafting additional security and contingency plans.

The Computer Security Act requires federal agencies to identify and provide security protection commensurate with the risk resulting from the loss of, misuse of, unauthorized access to, or modification of, information collected or maintained by or on behalf of the agency. The Government Information Security Reform Act re-emphasizes that, as part of an agency-wide security program, agencies need to ensure that proper security controls and management structure are in place to manage information systems security throughout the life cycle of a system. Also, Office of Management and Budget Circular A-130, *Management of Federal Information Resources*, requires agencies to establish a process to certify and accredit information systems and the National Institute of Standards and Technology provides guidance for doing so.

Maintaining a secure computing environment is an ongoing process and requires senior management sponsorship and dedicated resources. The following recommendations will assist NSF in fully implementing an entity-wide security program.

Recommendations

We recommend that NSF take steps that include an assessment of risks, implementation of appropriate policies and related controls, and an evaluation of the effectiveness of established controls. Specifically, NSF should ensure that:

- Networked resources and critical production systems are securely configured and security controls are periodically reviewed to prevent unauthorized access to these resources. These include, but are not limited to, its security module, core financial management system, payroll system, and grant management system;
- A security management structure is fully implemented to effectively administer NSF’s entity-wide security program; and

- The Certification & Accreditation of major systems is fully implemented. This includes, but is not limited to, performing reviews of security controls, documenting application controls in its security plans, and identifying application-specific risks prior to accreditation.

Status of FY 2001 Reportable Conditions**01-01: Post-award Management****A. *Financial Monitoring of Grant Awards***

Although NSF has a robust system of award management over its pre-award and award phases, NSF did not have a comprehensive and systematic risk-based internal grants management program to monitor its post-award phase. Our review of NSF's corrective actions revealed that it needs to further improve its newly established post-award monitoring procedures before effective monitoring can take place. As a result, this condition, which first arose in 2001, was repeated in fiscal year 2002.

B. *Monitoring of Assets Owned by NSF in the Custody of Other Entities*

Although certain procedures are in place to monitor NSF assets in the custody of other entities, significant improvement of current policies and procedures is necessary to ensure that such assets are protected from loss, misuse, or theft, and reliable and timely information is obtained on the value of these assets. As a result, this condition, which first arose in 2001, was repeated in fiscal year 2002.

01-02: Information Security

Our 2002 review of the logical and access controls over NSF facilities, information system resources, applications, and data identified certain vulnerabilities in the design, administration, and monitoring of these controls. Weaknesses were noted in the information security program related to application security design, database security, intrusion detection, network infrastructure security, file sharing, remote access, access to certain application source code, physical access, and administration of access privileges. NSF has made progress in correcting many of the weaknesses identified in fiscal year 2001, however, significant deficiencies continued to exist in fiscal year 2002 in the areas of access controls, security management structure, and certification and accreditation of major systems. As a result, this condition was repeated in fiscal year 2002. Weaknesses in information security have been a long standing issue which was first reported as a management letter finding in fiscal year 1998.

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

January 10, 2003

To: Christine C. Boesz
Inspector General

From: Thomas N. Cooley
Chief Financial Officer

George Strawn
Chief Information Officer

Subject: Management's Response to Independent Auditors' Report
Fiscal Year 2002

This memorandum and attachments transmit NSF management's response to KPMG LLP's audit report for fiscal year 2002. We have included detailed responses to the findings as Attachment 1.

SUMMARY

The auditors' report concluded that NSF's financial statements as of and for the years ended September 30, 2002, are presented fairly, in all material respects, in conformity with generally accepted accounting principles in the United States of America.

Reportable Conditions

The auditors' report identified two repeat audit findings from Fiscal year 2001 that they consider to be reportable conditions.

- **Post-Award Management** – Adequate procedures for monitoring (i) awardees' administrative and financial management practices and compliance with laws and regulations, and (ii) NSF-owned property, plant and equipment in awardees' custody are not in place, though proactive steps have been taken.

- **Information Security** – NSF has weaknesses in the areas of access controls, security management structure, and certification and accreditation of major systems, though proactive steps have been taken.

NSF Management Response: *NSF management generally concurs with the findings. However, we do not believe that the identified conditions are significant deficiencies that would rise to the level to repeat as reportable conditions. NSF has proactively addressed and implemented many of the recommendations concerning both findings from the prior fiscal year. We have made credible and significant improvements in both areas and concur that more needs to be done. Nonetheless, we believe our post award management program and procedures as well as our layers of internal controls for the security of information that are in place have mitigated the risk for any potential waste, fraud or mismanagement of NSF resources to a low level. NSF remains committed to a program of continuous improvement in these and in other management challenge areas.*

NSF management appreciates the cooperation extended by both the Office of Inspector General and KPMG LLP throughout the audit process. We will continue to work with you both for the future to make our very effective internal controls even better.

cc: Dr. Warren M. Washington

Attachment 1

DFM:JLynskey:alr:MgmntResptoAudRptFY2002 030110

bc: BFA Chron
DFM Chron
George Strawn, IRM/OAD
Don McCrory copy
John Lynskey copy
Mary Santonastasso/DGA
Brian Mannion/DGA
Andrea Norris/DIS
Bob O'Bryan/DIS

Management's Responses to Auditors Report

Management's Response to 02-01 Post-Award Management

Management generally agrees with the recommendations related to the Post Award Monitoring Activities, and has taken steps or completed actions in many of the areas identified. However, we continue to disagree, as we had last year, with the categorization of this audit area as a "Reportable Condition". The magnitude of the categorization appears to derive from the opinion of our approach to post-award administration as well as the feeling that there may exist potential problems with institutional (awardee) financial and programmatic performance that our efforts will not address. To support our belief that these opinions do not warrant this finding classification as a reportable condition, we would remind you of the number of activities we have taken over the past year to expand the National Science Foundation's (NSF) program of post-award administration. These accomplishments, when taken with what is acknowledged in the report as an overall robust awards management system, and our expressed long-range plans to continue to enhance these activities, mitigate the potential for waste, fraud and mismanagement to a de minimis level. We plan to have a robust program and structure in place no later than the end of FY2003, which we believe will address all the recommendations. We do see this ongoing activity as a management challenge for the foreseeable future.

A. Financial Monitoring of Grant Awards

The FY2001 audit report indicated that NSF did not have a comprehensive, systematic risk-based internal grants management program to monitor its post-award phase. The Foundation recognized the need to enhance our monitoring and technical assistance enterprise and proceeded to make several improvements during FY2002. Many of these, identified in the NFR, indicate the progress that the Foundation has made in developing corrective actions in response to previous findings in the post-award monitoring program. The tools, protocols, processes, and procedures were piloted to develop the Risk Assessment and Award Monitoring Guide. Our aim in developing these tools and expand our on site monitoring and technical assistance activities is to provide increased business and managerial assistance to the NSF awardee community. We recognized and noted during the past year that this was an iterative process, and that the guide, processes, and practices would change as we learn more and adapted lessons learned from other organizations. We continue to seek new tools to aid NSF, and its partners, in the stewardship of taxpayer dollars and to plan for training and professional development opportunities for the staff who are and will be undertaking this responsibility.

When we first presented our award-monitoring plan to the Audit and Oversight Committee of the National Science Board, we were encouraged by their reaction. They embraced our overall proactive approach and recognized that the development of a risk-monitoring plan was a long-term iterative process that would continue to be developed and refined over time.

There is always some element of “risk” in the allocation of funds to support research. It would be prohibitively expensive and resource dependent to address all risk at all institutions, as we are sure you agree. Rather, we feel that it is better and more cost-effective to focus on risk management mitigation – to provide outreach and business assistance to the grantee community, identify best practices, cross serve constituents and provide value added to both government and awardee institutions.

We do have a concern with the statement on page 2, of the draft audit report, which indicates that “...the integrity and accuracy of grantee expenditures recorded by NSF may be compromised” if there is not a more comprehensive on-site financial review of NSF awards. There have been essentially no empirical evidence or audit issues that have come to our attention that would warrant such a broad statement. However, as our guide indicates, we do plan to review accounting system activity and conduct limited transactional testing on-site.

The concerns expressed in the finding appear to consist of elements of grant review, institutional performance, and programmatic concerns. The recommendations focus on an expansion of our activities. As noted, we have adopted practices in our current plan to address these concerns. We have developed our monitoring plan, based on our risk assessment analysis, identifying grant recipients to be evaluated. We have defined the roles and responsibilities of the site review teams. Our protocol includes communication with the affected program officers both before and after the site review to gain insights into the award and institution and to provide the program officer an opportunity to note any concerns or observations. Our site visit documentation has been standardized.

We offer the following to demonstrate our accomplishments to date, and our plans for continuous improvement:

We established a set of weighted risk factors and applied those to the entire universe of active grant and cooperative agreement awards. These risk categories focused on those aspects of the NSF award portfolio that affect accountability in research and fiscal compliance. These categories have either an organizational or individual award focus and are based on research administration issues that recur throughout the year, audit report findings including A-133 issues, and the OIG’s statement to Congress on the need to focus our risk-monitoring program on our “non-traditional “ awardees. This broad based approach provides opportunities for institutional focus and a risk-based award specific assessment as we build out our program.

We selected awards from the higher range and developed a monitoring subset of institutions, based on the historic performance perspective and consideration for A-133 report findings and single agency audit cognizance, and selected those that we felt were appropriate to review in the upcoming fiscal year. This list has been shared with the OIG.

This list of proposed on-site monitoring visits is a baseline that will likely change as we redesign our business processes and focus on other specific award types. The “high risk” award activity is a trigger to be identified on the list, but we plan to review the NSF award activity at the institutions as a whole. This approach represents a significant expansion of our review base from the single award identified in our initial award review and includes a cross section of many of our traditional awardees. In this way, we will be able to benchmark the financial and administrative activities at a number of “traditional” awardees representing a significant portion of the NSF award portfolio. It also reflects a diverse awardee universe that will allow the review teams to determine if there are any significant issues that may

predominate at groups of institutions. Based on our review, we will refine our criteria as we continue to modify our out-year review practices. Moreover, we are pursuing mechanisms by which we may share with the NSF awardee universe “best practices” and “common issues identified” to enable our awardees the opportunity to proactively engage in self-assessment and continuous process improvements.

Communication with NSF program staff is essential. Our monitoring and technical assistance approach is multi-level and will include a formalized in-house desk review of activities, an expansion of our internal outreach efforts and our increased participation in reverse site visits. We also will explore the possibility of expanding our partnership with program on joint site visits, recognizing that award monitoring is a collaborative process between program and BFA, providing education and business assistance to the community. This should address many programmatic concerns that are raised throughout the year and provide an opportunity to work with our programs to resolve their issues. In particular, we have selected the Math and Science Partnership comprehensive program as a programmatic focus for this year.

We have identified the roles and responsibilities for the BFA Award monitoring on-site team to provide guidance for on-site field review procedures. These visits will serve as the financial and business review and technical assistance to the institutions and will provide training opportunities for staff. Training is a critical component and will be expanded to all levels throughout the cognizant organizations over the next two years (FY2003 and FY2004).

In addition to the foregoing site visits, we also plan:

- to assess our findings and recommendations in the site visit reports and include data and recommendations as a posting on our web site. Based on these findings, we will reevaluate our strategic plan and modify, as appropriate, our risk assessment protocols.
- to continue to benchmark our monitoring activities with additional agencies and will explore the feasibility of participation on joint site visit activities.
- to provide additional training for staff throughout the year to enhance their monitoring role; and
- to seek the proper alignment of resources (people and training and travel funds) to maximize the efficiency and effectiveness of such an operation.

To summarize, our guide and review are developed as an iterative process and we plan to consider revisions to incorporate lessons learned and best practices. Moreover, we have asked your office for guidance and recommendations on how best to address the additional risk characteristics identified by KPMG, such as poor financial management, inadequate procurement and/or property systems, or poor past performance. Additionally, their input would be invaluable in providing additional analysis techniques to aid in the evaluation of key financial risk areas and to ensure consistency in the procedures conducted.

We believe the approach we have undertaken is one that is appropriate for the NSF, and one that meets the concerns as expressed in the finding. Research programs yield benefits in support of the public good by virtue of their focus on discovery and risk-taking. It would be prohibitively expensive and resource depleting to address all levels of risk at all awardee

institutions. Rather, NSF believes that the proper balance between risk-mitigation and cost-benefit is achieved through the type of post-award administration program that we are implementing. Our program is one that combines prioritized on-site reviews with institutional outreach and business assistance and the identification of best practices.

B. Monitoring of Assets Owned by NSF in the Custody of Other Entities.

NSF has actively taken a more aggressive role in developing procedures to periodically confirm the existence of NSF assets in the custody of awardees. In coordination with DGA and DFM, DAS has taken the lead responsibility for updating the NSF Administrative Manual #1, Subchapter 300, Property Management, which will address responsibility and accountability of assets owned by NSF and others.

NSF will use a multi-step approach to ensure property accountability, financial disclosure and monitoring requirements for government owned equipment in the possession of our awardees. To ensure proper financial disclosure in NSF's financial statements in accordance with Federal Accounting Standards Board guidance issued to NSF on November 12, 2002, DAS will obtain and maintain the file copies of annual audited financial statements and inventory listings from FFRDCs and other awardees in possession of government owned equipment. DAS will work with DFM on the proper financial disclosure requirements. In addition, property management is a part of NSF's risk assessment plan. The vast majority of NSF's government-owned property will be monitored through Total Business Systems Reviews. These monitoring activities include, but are not limited to, on-site inventory sampling of the annually submitted inventories.

In addition, DAS will test the integrity of awardee property management systems, required to be submitted by each awardees site property administrator as part of any participating on-site monitoring activities, in coordination with DGA. DAS will be using a prescribed checklist to ensure compliance with OMB Circular A-110, property management standards. This will supplement our inventory listings through internal controls checks and edits for accountability and existence of these assets.

Summary

The National Science Foundation is keenly aware of the need to develop and implement a strategic plan for award monitoring. With increases in appropriations, a diverse awardee community, complex agreements, and a need to focus on accountability, NSF has taken proactive steps to address these concerns. Our award assessment and risk-monitoring plan is accomplishing its mission of ensuring proper post award management through a risk-mitigation and cost-benefit approach. Our program is one that combines prioritized on-site reviews with institutional outreach and business assistance and the identification of best practices. We remain committed to a program of continuous improvement.

We continue to give thoughtful and deliberate consideration to post-award administration in order to ensure that, as we address this area, we do so in an effective, yet cost-beneficial way. This has resulted in our undertaking a long-range, iterative strategy that includes human capital investments, the development of a risk management model, the piloting of site-visit protocols and tools, and partnering between administrative staff and technical staff. We believe that this is the appropriate approach for NSF.

Managements Response to 02-02 Information Security

NSF indeed faces the challenging task of maintaining an open and collaborative environment for scientific research and discovery while maintaining the confidentiality, integrity, and availability of our critical information assets. We have established a strong and comprehensive Information Technology Security (ITS) program that is consistent with Government-wide guidance and patterned after industry best practices. NSF's information security approach is based on a fundamental philosophy of risk management where risks are assessed, understood, and mitigated appropriately. This approach allows NSF to implement appropriate layers of protective measures and controls to ensure the privacy, integrity, and security of information and information technology resources needed by NSF and the broader research community while allowing appropriate access and availability to users. The layered approach effectively reduces the risk of unauthorized access to systems and information using various manual and automated checkpoints and controls. NSF continues to assess and evaluate improvements that can be made to improve its overall security posture. Our approach is to focus on the areas which we believe are the highest risk - and to take prudent steps to mitigate them.

Management generally agrees with the recommendations related to ITS, and, in fact, has already taken or completed action in many of the areas. However, we do not agree that the findings contained within the audit constitute a reportable condition. While we recognize that improvements can always be made, a comprehensive, agency-wide ITS program has been implemented that encompasses all aspects of information security, including policy and procedures, risk assessments and security plans, managed intrusion detection services, vulnerability assessments, and technical and management security controls. The overall components of NSF's ITS program include:

- Policies and Procedures. NSF has established ITS policy, which is consistent with law, regulation, best practices, and NSF's particular requirements. NSF policy establishes overall security requirements for all NSF information systems and describes the overall NSF ITS program, including roles and responsibilities for key NSF organizations and NSF employees. Much of NSF's confidential information is contained in our proposal processing systems. These systems are constructed to maximize the protection of sensitive information such as the names of scientific reviewers and confidential proposal information. Operational procedures and controls are also in place to ensure the security, reliability, and integrity of information technology resources that support NSF operations.
- Security Assessments, Plans, and Controls. NSF has a comprehensive framework for establishing appropriate safeguards and controls and ensuring that they are integrated into existing and new information technology assets and resources. As part of the annual ITS Program review, NSF program offices with major systems were required to perform self-assessments of their security posture. In addition, risk assessments and commensurate security plans are required for major systems, in accordance with OMB Circular A-130, "Management of Federal Information Resources." System security plans describe controls for mitigating risks and addressing security requirements. In the unlikely event of a major disaster, NSF has comprehensive disaster recovery plans and capabilities, which are tested on a semi-annual basis at a remote location.

- Incident Detection and Response. NSF has implemented technologies and processes to ensure it is alert to intrusion attempts and is positioned to take effective action to thwart them. NSF's telecommunications staff and contractor team is responsible for managing NSF's firewall architecture, ensuring strong network and application authentication, and providing virus protection services and general systems security and administration, and NSF has contracted with an independent vendor to provide managed-intrusion detection services. In cooperation with the Office of Inspector General (OIG), NSF established a Computer Incident Response Team (CIRT) and CIRT procedures. This team is composed of managerial and technical contacts throughout the agency that work collaboratively to respond immediately to security alerts. NSF routinely monitors security alerts from the General Services Administration Federal Computer Incident Response Center (FedCIRC), and the Federal Bureau of Investigation's National Information Protection Center (NIPC) to identify new and emerging vulnerabilities and ensure that NSF has necessary protection against threats to its infrastructure. In the event of a security incident, NSF has detailed procedures for coordinating and reporting security incidents with FedCIRC, the OIG, and external law enforcement authorities.
- Audits and Penetration Tests. NSF has proactively implemented scheduled vulnerability scans, additional internal and external penetration tests, and a 24x7 intrusion detection system capability. On an annual basis, the OIG assesses controls within NSF's computer environment to ensure they are consistent with GAO's Federal Information System Controls Audit Manual (FISCAM) guidance. As part of the annual financial statement audit, the OIG conducts independent penetration tests to measure the effectiveness of NSF security and system controls. Information gained from these activities and lessons learned are incorporated into ongoing operational processes and protocols.
- Training and Education. This past fiscal year, NSF established computer security awareness training and required it for all employees and on-site contractors. System and network administrators are the first line of defense in protecting NSF assets from intrusion, and it is critical that they remain current in security technology trends. NSF also continued to provide specialized courses that addressed the unique requirements and knowledge needed by individuals with significant computer or technology support responsibilities.

Security remains a high management priority for NSF and many initiatives were put into place in FY2002 to address continued security improvements. These include:

- Appointment of a Chief Information Officer whose function and responsibilities have been separated from the Director of the Office of Information and Resources Management (OIRM). This enhances the overall security management structure of the Foundation. The CIO previously indicated that the security "program is my highest priority, and I am committed to assure continued progress as it evolves to meet the dynamic threat environment facing all large organizations."
- Creation and successful recruitment of a new entity-wide Security Officer position that has broad responsibilities for NSF's overall security program. NSF also contracted with two firms that have extensive experience in IT security to (1) support Foundation-level security program policy, plans, and initiatives; and, (2) assess,

recommend, and implement security improvements in NSF's operational environment. In addition, NSF successfully recruited a National CyberCorps student to assist in implementing new security practices and is recruiting for a security officer within the Division of Information Systems.

- An extensive review of all systems was broadened to include all major and non-major applications and general support systems (the FY2001 GISRA review focused on mission-critical systems only). Reviews of security controls were conducted for all major applications using the National Institute of Science and Technology (NIST) self-assessment guide. Risk assessments and security plans have been completed for most systems, and are being developed, reviewed, and improved for all major applications and general support systems.
- Issuance of new NSF-wide Information Security policy and procedures to address comprehensive requirements for ensuring the integrity, confidentiality, and availability of information and information systems consistent with Federal laws and guidance. In addition, NSF issued a new virus protection policy and strengthened the security requirements throughout software lifecycle guidelines and procedures.
- Implementation of new and improved technologies and controls, including major upgrades to a more robust and secure enterprise-level server infrastructure; significant investments in more redundant and reliable hardware and software for communications and application support; implementation of new automated "fail-over" capabilities in the event of a major outage or damage; new performance monitoring tools; and new software configuration management, testing, and quality assurance tools.
- Implementation of additional, more extensive defensive technical and operational controls, including a 24x7 network intrusion capability; improvements to NSF's firewall architecture management; improved patch management processes; improved approaches for network and application authentication; improved account management; improved password controls and testing; routine vulnerability scans; internal and external penetration testing; and more robust virus protection capabilities. In addition, disaster recovery testing was performed three different times this past fiscal year.
- NSF-wide security awareness training required for all employees and contractors to assure that they are aware of their responsibilities for security. For staff and contractors that have specialized IT responsibilities, we have conducted additional seminars, and brought the SysAdmin, Audit, Network, Security (SANS) Institute, a recognized leader in IT security training on site for a six-day course on security for database, network, and system administrators.
- Implementation of additional management controls to assure that security requirements, issues, and plans are routinely reviewed. New controls include institution of daily operational reviews, monthly project management reviews, and operational readiness reviews prior to release of new applications or major enhancements.

On page 10, the first paragraph, we disagree with the statement " these weaknesses posed a variety of risks which include potential unauthorized access to and modification of financial, programmatic, and other sensitive information; loss of assets; disruption of critical operations; and the ensuing costs associated with business downtime and recovery." In addition to providing extensive evidence that the level of NSF and technical knowledge required to circumvent controls is considerable, the auditor testing completed in fiscal year 2002 did not identify any unauthorized modification of NSF data or information. We also need to reiterate our response to the FY2002 Independent Evaluation Report, dated June 2002,

"Successful exploitation of information to carry out nefarious acts would be extremely difficult, and would require considerable insider knowledge of NSF applications, business processes, and infrastructure. The audit team that conducted the internal penetration test has four years of experience with the NSF environment, a very high degree of technical expertise, and in-depth knowledge of the systems and applications infrastructure, business practices, established management and technical controls. Over the course of this year's audit, NSF provided the team with more than 70 written products providing detailed information about the systems environment. A typical NSF employee does not have this information, nor the sufficient breadth and depth of knowledge in these areas to be able to fully exploit vulnerabilities. The risk that an internal employee would know how to exploit the layers of controls at the general application and data base levels, application-specific levels, and business processes and rules is low. In the unlikely event that this could occur, it would be detected and overall impacts to the Foundation or its financial records would be limited."

Over a two-month period of time this year, the audit team conducted testing targeted to identify and exploit potential vulnerabilities in the NSF environment from two perspectives: remotely (as a NSF outsider) or locally (as a trusted user within NSF's environment). NSF is very pleased that the audit team was not able to penetrate our systems while operating from outside NSF's environment, operating either with knowledge of the NSF environment or without knowledge of the NSF environment. This result is significant, as it demonstrates that a strong defensive security posture is in place to prevent intrusion or damage by external individuals who may wish to do NSF harm.

The audit team did identify potential internal vulnerabilities in the NSF environment, and in pursuing some of these, demonstrated that there are areas where security could be strengthened. NSF corrected the primary vulnerabilities identified by the OIG within 48 hours and implemented additional controls to (1) strengthen the Foundation's security structure; and (2) ensure these vulnerabilities did not recur. NSF took additional action to contract with an independent firm to test that primary vulnerabilities were in fact addressed and we are pleased to report that these tests verified that the primary vulnerabilities identified by the audit team have been corrected. NSF has also acted on the OIG's eight "quick hit" recommendations.

The existence of a potential internal vulnerability does not constitute a significant deficiency – rather it is an unfortunate reality of today's complex environment, and is in fact, why a layered approach to security is critical. As long as one allows communication and access to flow between networks and systems, there is the potential for vulnerability. Globally, new vulnerabilities are discovered every week and in fact, some vulnerability scanners search for up to 800 vulnerabilities that frequently change as new information is learned. According to a NIST national database, almost 400 new vulnerabilities were discovered in the May through July 2002 time period, equating to approximately six vulnerabilities each business day. NSF

has established ongoing and routine processes to identify and mitigate current, new, and emerging vulnerabilities. Checks and balances within NSF systems and in proven management practices minimize the potential risk or impact of a potential security breach. Segregation of duties, reconciliation and exception reports, reasonableness checks, and unauthorized changes checks are long-standing controls that are in place to mitigate the risk of inappropriate actions made through an electronic system. These layers of controls mitigate the risk of a vulnerability that would result in a significant misstatement of the NSF Financial Statement that would also not be detected by systems controls or employees in the normal course of performing their functions.

Further, management notes that the auditors' penetration testing activity was detected and reported both by our intrusion detection service provider and by system administrators prior to the main activities that resulted in these recommendations. Review of network logs also indicated activity that would have been further pursued had NSF not identified the originating machine as one being used by the auditors. These detections are important because had non-auditors been detected performing these activities, we would have taken actions to severely limit their network and/or physical building access. In effect, NSF provided an artificial environment for the testing to occur – a situation that would not be the case in a normal detection scenario.

On page 9, paragraph seven, we disagree with the statement, "significant deficiencies continued in FY 2002 in the area(s) of ... security management structure, and ..." NSF has established a security management structure that reflects the strategic importance and priority placed on security. The NSF Chief Information Officer (CIO) provides overall leadership of the ITS Program, and ensures that policy, procedures, and activities are coordinated with NSF program management and research initiatives. Consistent with the Government Information Security Reform Act (GISRA, 44 U.S.C., Chapter 35), the NSF Director delegated to the NSF CIO the authority to administer the NSF security program including responsibilities for designating a senior agency information security official; developing and maintaining an agency wide information security program; ensuring that the agency effectively implements and maintains information security policies, procedures, and control techniques; providing training; and evaluating and reporting on program status. In addition, the Director of the Division of Information Systems has been appointed the NSF Deputy CIO to assure that key security and other CIO-related responsibilities continue to be carried out effectively. Our security management structure is, and will continue to be, evolving in order to address the ever changing advances in both information technology and the information technology security responses required to adapt to those changes.

In FY2002, NSF took a number of steps to improve the overall security management structure of the Foundation. Most significant was the creation and successful recruitment for a new senior agency-level position that reports to and supports the CIO in the planning and execution of the NSF security program. This new position reflects the Foundation's commitment to a dedicated, agency-level senior position to meet security responsibilities. Throughout FY2002, NSF's established management structure assured overall effectiveness of NSF's management, operational and technical security controls. The Director of DIS has overall responsibility for security for the data center, applications, and communications infrastructure, and the Chief of the Telecommunications Branch has responsibility and authority for day-to-day operational security requirements. To address NSF's agency-wide security goals, the Deputy Division Director of DIS was assigned responsibility for overseeing agency-level GISRA plans in April 2002. In addition, NSF is recruiting for a new DIS Security Officer, has created one permanent full time DIS position security operations, and we

successfully recruited a National CyberCorps student this summer. In addition, contracts were established with two different leading IT security firm to provide support for the Foundation's GISRA activities and to support operational security improvements.

Again on page 9, paragraph seven, we disagree with the statement, "significant deficiencies continued in FY 2002 in the area(s) of ...and certification and accreditation of major systems." The certification & accreditation (C&A) procedure is a continual controlled process of identifying risks and vulnerabilities and making a risk-based decision to mitigate, accept, and manage those risks. Each system required to undergo the C&A process and is periodically reviewed for re-certification until the system is retired or replaced. To date we have fully accredited six of our twenty major systems. Another ten of the remaining systems have an interim authority to operate prior to final certification. In the October 2002 submission to OMB of the NSF Plan of Action & Milestones (POA&M), we reported the milestone of having all NSF major applications and general support systems fully certified and accredited by the end of fiscal year 2003. The Office of Polar Programs (OPP) submitted a detailed security plan that extends through fiscal year 2006. This plan also includes their timetable for certifying and accrediting all their systems.

Also on page nine, in the seventh paragraph, NSF disagrees that "significant deficiencies continued in FY 2002". The findings cited in the June 2002 FY 2002 GISRA Independent Evaluation Report do not represent weaknesses in policy, procedure, or practice that materially impact the effectiveness of NSF's entity-wide security program. Again, these are areas that could be improved in any large federal or corporate security program. We have already completed numerous actions to address recommendations identified in the Report, and, consistent with the GISRA Plan of Actions and Milestones (POA&M) submitted to OMB in October 2002, we are continuing to make progress in areas that require more significant time and resources. NSF reported [will report] to OMB on the Consolidated Update of Program and System Level Action Plans January 2003 Quarterly Report completing corrective action on a total of more than a third of the identified program and system level weaknesses and the sub-tasks associated with those weaknesses. We continue to assess and evaluate improvements that can be made to our overall security posture as part of our risk-based, layered approach to implementing appropriate measures and controls.

We continue to appreciate the close coordination with the OIG and the audit team. Their assistance in working with NSF to identify areas where improvements are appropriate and to identify reasonable steps that can be taken to address any areas of significant risk is important. NSF continues to incorporate information gained from these activities and lessons learned into ongoing operational processes and protocols to continually improve NSF's security posture.