

NATIONAL SCIENCE FOUNDATION
4201 Wilson Boulevard
ARLINGTON, VIRGINIA 22230



OFFICE OF
INSPECTOR GENERAL

November 12, 2004

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

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

From: *Deborah C. Boesz*
Dr. Christine C. Boesz
Inspector General

Subject: Audit of the National Science Foundation's
Fiscal Years 2004 and 2003 Financial Statements

This memorandum transmits KPMG LLP's financial statement audit report of the National Science Foundation (NSF) for its Fiscal Year 2004, which includes Fiscal Year 2003 comparative information.

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 2004 and 2003 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 NSF's post-award administration and contract monitoring. KPMG also reported that there were no instances in which NSF's financial management systems did not substantially comply with the requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA), and found no reportable noncompliance with laws and regulations it tested.

Management's response dated November 10, 2004, 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;
- 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; and
- Coordinated issuance of the audit report.

KPMG LLP is responsible for the attached auditor's report dated November 4, 2004, and the conclusions expressed in the report. We do not express any opinion on NSF's financial statements, internal control, conclusions on compliance with laws and regulations, or on whether NSF's financial management systems substantially complied with FFMIA.

The Office of Inspector General appreciates the courtesies and cooperation 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



KPMG LLP
2001 M Street, NW
Washington, DC 20036

Independent Auditors' Report

Dr. Warren M. Washington
Chairman, National Science Board

Dr. Arden Bement
Acting Director, National Science Foundation

We have audited the accompanying balance sheets of the National Science Foundation (NSF) as of September 30, 2004 and 2003, and the related statements of net cost, changes in net position, budgetary resources, and financing (hereinafter referred to as the financial statements) for the years then ended. 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 the NSF's compliance with certain provisions of applicable laws, regulations, contracts and grant agreements 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 financial statements as of and for the years ended September 30, 2004 and 2003 are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 14 to the financial statements, NSF restated its fiscal year 2003 unexpended appropriations and cumulative results balances reported on the Balance Sheet and Statement of Changes in Net Position.

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

- **Post-award Administration** - Post-award administration, especially with respect to financial monitoring, has been a long-standing problem and NSF has not made sufficient progress to effectively address the findings identified to date.
- **Contract Monitoring** - NSF does not adequately review the public vouchers submitted by contractors receiving advanced payments. Without adequately performing such procedures, misstatements in expenditures may remain undetected.

However, the reportable conditions identified above are not considered to be material weaknesses.

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



NSF management does not concur with the findings regarding the reportable conditions. Management's response dated November 10, 2004 follows this report.

The following sections discuss our opinion on the NSF's financial statements, our consideration of the NSF's internal control over financial reporting, our tests of the NSF's compliance with certain provisions of applicable laws, regulations, contracts, and grant agreements, 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, 2004 and 2003, and the related statements of net cost, changes in net position, budgetary resources, and financing, for the years then ended.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of NSF as of September 30, 2004 and 2003, and its net costs, changes in net position, budgetary resources, and reconciliation of net costs to budgetary obligations for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 14 to the financial statements, the NSF restated its fiscal year 2003 unexpended appropriations and cumulative results balances reported on the Balance Sheet and Statement of Changes in Net Position.

The information in the Management 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 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.

Our audits were conducted for the purpose of forming an opinion on the financial statements taken as a whole. The Detailed Performance Information (Section II) is an integral part of NSF's *Fiscal Year 2004 Performance and Accountability Report*. However, this information is not a required part of the financial statements and is presented for additional analysis. Accordingly, it has not been subjected to auditing procedures and therefore we express no opinion on it.

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 2004 audit, we noted certain matters, described in Exhibit I involving internal control over financial reporting and its operation that we consider to be reportable conditions. However, the reportable conditions identified are not considered to be material weaknesses.

* * * * *

A summary of the status of the prior year reportable condition is included as Exhibit II.

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 November 4, 2004.

Compliance and Other Matters

Our tests of compliance with certain provisions of laws, regulations, contracts, and grant agreements, as described in the Responsibilities section of this report, exclusive of those referred to in the *Federal Financial Management Improvement Act* (FFMIA), disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* and OMB Bulletin No. 01-02.

The results of our tests of 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 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 November 4, 2004.

Responsibilities

Management's Responsibilities. The *Government Management Reform Act of 1994* (GMRA) requires each Chief Financial Officer (CFO) Act agency to report annually to Congress on its financial status and any other information needed to fairly present its financial position and results of operations. To meet the GMRA reporting requirements, NSF prepares annual financial statements.

Management is responsible for the financial statements, including:

- 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 preparing the Management Discussion and Analysis (including the performance measures), Required Supplementary Information, and Required Supplementary Stewardship Information, and
- Complying with laws, regulations, contracts, and grant agreements, 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 fiscal year 2004 and 2003 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 2004 audit, we considered NSF's internal control over financial reporting by obtaining an understanding 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 *Government Auditing Standards* and OMB Bulletin No. 01-02. 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 internal control over financial reporting. Consequently, we do not provide an opinion thereon.

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 the Management Discussion and Analysis section, 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 performance measures and, accordingly, we do not provide an opinion thereon.

As part of obtaining reasonable assurance about whether NSF's fiscal year 2004 financial statements are free of material misstatement, we performed tests of NSF's compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts, and certain provisions of other laws and regulations specified in OMB Bulletin No. 01-02, including certain provisions referred to in FFMIA. We limited our tests of compliance to the provisions described in the preceding sentence, and we did not test compliance with all laws, regulations, contracts, and grant agreements applicable to NSF. Providing an opinion on compliance with laws, regulations, contracts, and grant agreements was not an objective of our audit and, accordingly, we do not express such an opinion.



Under OMB Bulletin No. 01-02 and FFMA, 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 FFMA Section 803(a) requirements.

Distribution

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

KPMG LLP

November 4, 2004

Fiscal Year 2004 Reportable Conditions

04-01 Post-Award Monitoring

NSF relies almost exclusively on awardees' representations in their financial expenditure reports to support approximately 90 percent of NSF expenditures, without performing any periodic internal reviews of the expenditure reports. In fiscal year 2004, NSF had a budget of over \$5 billion and managed an estimated 35,000 awards. Post-award administration, especially with respect to financial monitoring, has been a long-standing problem and NSF has not made sufficient progress to effectively address the findings identified to date. We believe NSF's post-award administration structure and resources are inadequate. Management needs to make post-award administration a higher priority, particularly in an age of increased accountability.

In response to a reportable condition identified in the Independent Auditors' Report in prior years, NSF developed the Award Monitoring and Business Assistance Program Guide (Guide) which provided procedures for grantee risk assessments, and on-site visits to ensure among other things that grantee financial management practices are sound. While the Guide represents a significant effort to improve NSF's award monitoring, several concerns remain about the limitations of the risk assessment model, the adequacy of on-site visit procedures and most importantly NSF's ability to provide adequate resources for an effective post-award monitoring program.

NSF's current post-award monitoring program contains the following deficiencies:

- The current risk assessment model determined that only 0.01 percent of NSF awards were high risk. Also, the model does not identify some awards that are known to be high risk.
- The award-monitoring program does not address procedures for both baseline and advanced monitoring depending on the financial risk of the award. Baseline monitoring, which should be completed for all awards, consists of ensuring that administrative award terms and conditions are satisfied, required audit reports are filed, and progress and final reports are received and acted upon as appropriate. Advanced monitoring, which should be performed on high-risk awards provides a more in depth evaluation of award activity including desk reviews and on-site visits.
- On-site visit procedures identified in the Guide are not adequate for the performance of an effective on-site review since the procedures in the Guide were streamlined in a manner that decreased the effectiveness of the work to be conducted on site-visits. Additionally, the length and staffing of the site visits does not allow for thorough reviews of grantees' compliance with grant terms and conditions.

In March 2004, a consultant to NSF issued a report titled *Post-award Monitoring Assessment*. The report indicated that while NSF made commendable efforts to develop policies and procedures, it still faces a number of challenges to achieve effective administration. Further, using other grant making agencies as a benchmark, the consultant identified gaps in NSF's post-award administration. NSF has not developed an action plan to address the reported opportunities for improvement.

The NSF Office of Inspector General (NSF OIG) audits continue to disclose noncompliance with federal regulations as well as questioned costs. Two NSF OIG audits that have recently been completed, but not formally issued, questioned approximately \$51 million of costs claimed on these awards, a large portion of which was unauditible due primarily to a lack of accounting records. Such findings demonstrate the increased need for a robust grantee financial monitoring program. Since a significant amount of grants are

not subject to any type of financial monitoring, NSF is exposed to a higher risk that grants are not spent for the purpose originally intended and that expenses reported in the financial statements could be improperly stated.

Recommendations

We believe that a more robust post-award monitoring program is needed. Accordingly, we recommend that the Chief Financial Officer:

1. Revise the fiscal year 2005 risk assessment model so that it identifies all known high risk awards;
2. Develop and begin implementing a plan for required baseline and advanced monitoring of all grantees;
3. Develop a corrective action plan to address the suggestions in the “Overall Assessment Opportunities for Improvement” section in the *Post-award Monitoring Assessment Report*, dated March 2004; and
4. Increase the resources dedicated to post-award monitoring. This should include increasing the number of professionals fully focused on post-award monitoring, performing more desk reviews and site reviews, and devoting more time to each site review.

Management’s Response

See Exhibit III.

Auditors’ Comments

We continue to believe that the lack of an effective post-award monitoring program creates a risk that grant funds are not spent for the purpose originally intended and that expenses reported in the financial statements could be improperly stated. The purpose of this finding is to convey the continuing limitations of the policies and procedures implemented to date. Management has taken little action to our previously issued recommendations. NSF’s consultant reported concerns similar to ours in their *Post-award Monitoring Assessment* report, dated March 2004. Further, although the NSF OIG plays a support function in post-award monitoring, the primary responsibility for monitoring grantees rests with NSF. Therefore, we continue to recommend that management take steps as recommended above to strengthen the post-award administration program.

04-02 Contract Monitoring

NSF does not adequately review public vouchers submitted by contractors receiving advance payments to ensure that the reported expenditures are correct and consistent with the contract. Without adequately performing such procedures, misstatements in expenditures may remain undetected. Federal law requires that responsible officials review the public vouchers for accuracy and propriety, correct computations, and authorized purpose under the contractual agreement.

Contractors submit advance requests to NSF’s Division of Financial Management (DFM). These advance requests are evaluated by DFM and the contracting officer’s technical representative (COTR) to determine whether funds are available. The contractor electronically submits a *Public Voucher for Purchases and Services Other than Personnel* (Public Voucher) on a quarterly basis to DFM. The Public Voucher is supported by project expenditure reports that contain obligation, advance and expense summaries by contract modification and is used to reconcile the amounts advanced to the amounts expended on the

contract. DFM uses the information contained in the public voucher to record expenditures incurred on the contract and to reconcile the expenditures to the outstanding advance payment balance in NSF's records.

NSF limits its review of the Public Voucher to a comparison of the reported quarterly expenditures with the cumulative advance request amount and does not independently assess the validity and accuracy of the reported contractor expenditures. In addition, neither the contracting officer nor the COTR receive copies of Public Vouchers. Without receiving and reviewing this information, NSF officials cannot determine whether the Public Vouchers are factually and mathematically accurate and in accordance with federal law (31 U.S.C. § 3528 (a)). As a result, over \$150 million of annual contract expenditures have not been subjected to an adequate review or approval to determine if these expenditures are appropriate and accurate. In addition, the Public Vouchers do not contain the requisite certification by an official of the contractor's organization stating that the amounts are correct.

Recommendations:

We recommend that the Chief Financial Officer develop procedures to require that:

1. Public Vouchers are adequately certified by the contractors' representatives; and
2. Public Vouchers are distributed to all responsible officials for review and approval. The review and approval process should include periodic testing of a sample of expenditures to actual invoices/other supporting documentation.

Management's Response

See Exhibit III.

Auditors' Comments

We continue to believe that the lack of adequate reviews over these public vouchers creates the potential for abuse or error and elevates the risk of fraudulent activities occurring without detection. The purpose of this finding is to convey the concern that without regular review of the amounts expended, unauthorized expenditures may take place. These public vouchers support the amounts expended on the contract using the funds that were advanced by NSF and are the only source for the contract expenditures recorded by NSF. Further, the magnitude of contract expenditures incurred by NSF elevates the need for NSF to implement appropriate procedures and controls over these expenditures. Therefore, we continue to recommend that management implement procedures to appropriately review these public vouchers.

Status of FY 2003 Reportable Condition

Post-award Grant Monitoring

NSF continues to need improvement in implementing a comprehensive and systematic risk-based internal grants management program to monitor its post-award phase. Our review of NSF's corrective actions in fiscal year 2004 revealed that NSF needs to fully implement its post-award monitoring procedures, as well as dedicate adequate resources both in terms of additional funding and staffing, before effective monitoring can take place. This is a repeat finding (Finding 04-01) making it the fourth year of reporting post-award grant monitoring as a reportable condition.

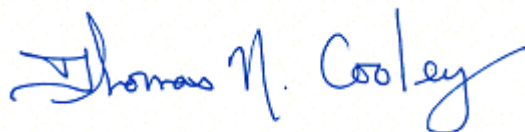
**NSF Management's Response to Independent
Auditor's Report for Fiscal Year 2004**

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

November 10, 2004

To: Christine C. Boesz
Inspector General

From: Thomas N. Cooley
Chief Financial Officer



Subject: Management's Response to Independent Auditors' Report
Fiscal Year 2004

This memorandum and attachment transmit NSF management's response to KPMG LLP's audit report for fiscal year 2004. 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, 2004 and 2003 are presented fairly, in all material respects, and are in conformity with generally accepted accounting principles in the United States of America (unqualified opinion). Their consideration of internal control over financial reporting found two reportable conditions: post-award monitoring and contract monitoring. NSF management feels that neither finding establishes a reportable condition – i.e. a significant deficiency that could adversely affect NSF's ability to record, process, summarize, and report financial data.

Reportable Conditions

The auditors' report identified the following as reportable conditions:

- Post-Award Monitoring – NSF's post-award administration structure and resources are inadequate.

NSF Management Response: Based on NSF's comprehensive grant administration process, recent improvements to that process, and the auditors' failure to support this finding or their recommendations regarding post-award monitoring, management strenuously disagrees with both the finding and the level assigned to it. Award monitoring is appropriately classified as a management challenge for FY 2005.

- Contract Monitoring – NSF does not adequately review public vouchers submitted under the Antarctic logistical services contract to ensure that the reported expenditures are correct and consistent with the contract.

NSF Management Response: The finding does not support the level of a reportable condition. On an advance-payment contract, such as the Foundation's contract with Raytheon for Antarctic support (the contract reviewed in the course of this year's audit), no payment is made to the contractor based on the submission of a public voucher. The public voucher is merely the vehicle which prompts the reclassification of amounts from advances to expenditures. Multiple controls are in place for overseeing the contract.

NSF management appreciates the cooperation extended by both the OIG and KPMG LLP throughout the audit process. We will continue with our collaborative efforts in maintaining excellence in financial management, and providing the highest quality of business services to our customers and stakeholders.

cc: Dr. Warren M. Washington
cc: Dr. Arden L. Bement, Jr.

Attachment 1

Management's Responses to Auditors' Report

Management's Response to 03-01 Post-Award Monitoring

Management strongly objects to the characterization of this as a "repeat finding" as well as its categorization as a reportable condition. Though titled as it has been for the past three years, the substance of the finding and attendant recommendations have changed annually, owing to NSF's substantial progress in strengthening an already robust program of post-award administration.

In the FY 2001 audit, the auditors recommended that NSF establish a risk-based post-award monitoring program. NSF did so the following fiscal year. For FY 2002, the auditors critiqued the program and recommended changes. NSF implemented the changes. In FY 2003, the auditors recommended that increased resources be committed to award monitoring, standardization of review processes, and full implementation of the award-monitoring program. NSF realigned staff and resources, fully implemented the post-award program, and improved policies and procedures.

By continuing to cite the agency's approach to post-award management as a reportable condition, the auditors suggest that the agency's focused investment in this area over the past three years has been of no value.

NSF's Award Administration Enterprise

Over the course of its 54 years, the Foundation had developed a comprehensive, dynamic award administration process. The Foundation's programmatic, financial, and administrative expertise is fully used in NSF's "life-cycle" award administration program -- a program that provides oversight of NSF's investment throughout the course of an award -- from solicitation through closeout.

During the pre-proposal stage, all proposal-generating documents prepared by program staff are reviewed by Budget, Finance, and Award Management (BFA) staff, to ensure consistency with federal and NSF policies governing assistance awards.

The merit review process, internationally recognized as the "gold standard" of scientific peer review, next provides scrutiny of the scientific merit and broader impacts of every potential award. Once a funding action is recommended, BFA staff review the financial and administrative terms of the proposed action. This review ensures that each awardee institution has full notice, within its award documents, of administrative and financial requirements. New awardee

organizations receive additional scrutiny before being deemed eligible to receive and manage federal funds.

Throughout the post-award period, current management controls reasonably ensure that awardees accomplish program objectives; that resources are used consistent with agency mission; that laws and regulations are followed; and that timely information is obtained and maintained. Internal controls provided by information technology systems assure the receipt of final reports from the awardee. Successful progress under prior funding is a key consideration in determining whether to fund a subsequent award.

During the course of an award, NSF program staff monitor technical effort while BFA staff oversee financial and administrative processes, policies, and practices. Large facilities are subject to the oversight processes outlined in the Facilities Management and Oversight Guide that can be found at: <http://www.nsf.gov/pubs/2003/nsf03049/nsf03049.pdf>, designed specifically for the particular risks presented by large facilities.

In addition, PART, GPRA, and other assessments validate awards at the outcome point. Each of these activities contributes to the Foundation's comprehensive award monitoring program.

Equally important, BFA provides business assistance to awardees, enhancing awardees' understanding of federal requirements. NSF hosts reverse site visits and training events as opportunities for discussing NSF's programmatic, administrative, and financial policies with the awardee community. BFA and other senior NSF staff present NSF policy and guidelines at a variety of annual professional meetings and regional grant conferences.

Audit responsibility resides with the Office of the Inspector General and other cognizant federal agencies. BFA staff manage audit resolution with the awardee and the Office of Inspector General. Unfortunately, audits referred to BFA for resolution too often focus on expired awards. Results from audits of contemporary awards would be more useful as a method of feedback on the effectiveness of our post award administration and more consistent with the complementary roles of the OIG and NSF.

Over the last three years, NSF has aggressively implemented a range of activities that has fortified NSF's ability to mitigate the risk of an awardee expending federal dollars in violation of federal law or policy. These include:

- Creation of a formal Award Monitoring and Business Assistance Program (AMBAP);
- Realignment of the Office of Budget, Finance, and Award Management including the establishment of the Division of Institution and Award Support,

as well as the more effective deployment of resources in the Divisions of Grants and Agreements and Contracts and Complex Agreements;

- Increased investment of staff and funding in post-award administration;
- Continued enhancement of IT-enabled awards management systems;
- Created a dedicated outreach management position to facilitate communication with the grantee community; and
- Active, award-winning participation in federal-wide efforts to improve accountability and develop responsible, cost-effective eGovernment systems.

From NSF's business assistance efforts and onsite reviews the past two years, NSF has learned that most awardees have adequate systems in place to appropriately manage federal dollars. We have found some shortcomings in the areas of written/consolidated policies and procedures, and cost-sharing allowability and tracking. BFA assists awardees with these areas as well as with establishing indirect cost rates – another area that is challenging to new awardees.

Equally important, since FY 2001 audits of NSF awardees (by the A-133 auditors or by the OIG) have yielded less than \$2 million in disallowed costs per year. This is in the context of award outlays of \$4,310,941,579 for FY2001; \$4,586,255,240 for FY 2002; and, \$5,129,724,220 for FY 2003. These extremely low levels of disallowed costs powerfully demonstrate the effectiveness of NSF's post-award administration.

Notwithstanding the Foundation's significant investment in strengthening award administration over the past three years, and the absence of audit findings demonstrating inadequate award administration, the auditors assert significant deficiencies in the Foundation's award administration internal control that could adversely affect NSF's ability to record, process, summarize, and report financial data consistent with the assertions of management in the financial statements. The Foundation strongly disagrees with the finding, the stated deficiencies and the recommendations.

The finding fails to develop the criteria as prescribed by the General Accountability Office Yellow Book: "criteria are the standards, measures, expectations of what should exist, best practices, and benchmarks against which performance is compared or evaluated." Without criteria, one cannot independently assess whether a deficiency exists much less whether it has been corrected.

Management disputes each of the deficiencies stated in the finding. The above summary of NSF's award administration enterprise, coupled with the below responses to the four recommendations provide management's response to the finding, the deficiencies, and the recommendations.

Recommendation One: Revise the fiscal year 2005 risk assessment model so that it identifies all known high-risk awards.

This recommendation baffles management. If an award is known to be high-risk, one needn't rely on a model to identify the award as high risk. Additionally, by definition, a model is a tool that allows approximate identification of a particular target group – in this case, high-risk awardees. In addition to the model, professional experience and judgment inform a determination of an award's classification as high risk.

Recommendation Two: Develop and begin implementing a plan for required baseline and advanced monitoring of all grantees:

As explained above, NSF employs a comprehensive award administration program. All awardees are subject to the oversight and review of that award administration process. Additional scrutiny and assistance are offered to high-risk awardees.

Recommendation Three: Develop a corrective action plan to address the suggestions in the "Overall Assessment Opportunities for Improvement" section in the *Post Award Monitoring Assessment Report*, dated March 2004;

In the referenced report, NSF's contractor – IBM Business Consulting Services (IBMBCS) – stated, "Overall, NSF has a sound post-award monitoring program, which provides valuable oversight and assistance to a risk-based sample of institutions." While the consultant identified opportunities for improvement, it also noted, "NSF has begun to pursue many of these opportunities in FY 2004, a promising indication that NSF's post-award monitoring program will improve over time." A corrective action plan is certainly not required for addressing opportunities for improvement identified in an independent report. Management welcomed the input from IBMBCS and will determine whether and when to implement recommended changes.

Recommendation Four: Increase the resources dedicated to post-award monitoring. This should include increasing the number of professionals fully focused on post-award monitoring, performing more desk reviews and site reviews, and devoting more time to each site review.

Recent increases in FTEs have been strategically placed throughout NSF to assist in both pre-award and post-award activities.

NSF management believes strongly that having staff serve in complementary functions brings synergies that would be lost if they were narrowly focused. DIAS is building the Cost Analysis and Audit Resolution Branch (CAAR) specifically to provide leadership and expertise in three complementary functions: Award Monitoring, Cost Analysis and Indirect Costs, and Audit Resolution.

NSF management greatly strengthened the AMBAP Guide during FY 2004 by clearly defining roles and responsibilities, documenting required pre-visit activities and procedures, and clearly delineating core review areas and allowing for targeted reviews based on risk. These review areas are further enhanced by on-site review modules that have five sections as follows: Introduction, Reference Documents, Objective of Review, Areas of Concern, and Detailed Procedures. There are modules for general management, accounting and financial system reviews, time and effort records for personnel, fringe benefits, travel, consultants, cost sharing, participant costs, indirect costs, FCTR reconciliation to the accounting system, procurement, subrecipient monitoring and property. Furthermore, the Guide delineates necessary award documentation that should be reviewed, describes consultation with program officials, delineates expectations for entrance and exit meetings, and has a section on planning for the site visit report. Reports and files have been standardized for consistency of review and reporting.

NSF management strongly believes that the length and staffing of site visits is sufficient to achieve our objectives. These reviews include an on-site component as part of a comprehensive review that actually begins with a desk review prior to the site visit. This desk review enhances the on-site portion of the review because significant analytical work and coordination with Program Officers takes place before the on-site visit begins. These reviews are not intended to be audits and should not be held to the same standards for duration and detail as an audit.

The final paragraph in the audit report that appears just before the recommendations should be removed. Discussing two NSF OIG audits that have not been formally issued is not appropriate. Until the reports are referred to NSF management for resolution and an NSF management decision is made, there is no way to estimate, which questioned costs will be sustained.

Based on NSF's comprehensive award administration process, recent improvements to that process, and the auditors' failure to support a finding or their recommendations regarding post-award administration, management strenuously objects to both the finding as drafted and the level assigned to it. Award administration is appropriately classified as a management challenge for FY 2005.

Management's Response to 03-02 Contract Monitoring

NSF Management disagrees with the finding and the second recommendation. The auditors' statement that over \$150 million of annual contract expenditures have not been subject to review or approval is, at best, misleading.

Although the finding uses the plural "contracts", it is based solely on the examination of the contract for Antarctic logistical services and so our response will focus on that award.

Pursuant to the NSF Act (42 U.S.C. 1870(d)), the Raytheon Technical Services Company LLC, Polar Services (RPSC) contract utilizes advance payments, consistent with the Federal Acquisition Regulation (FAR) clause 52.232-12, Advance Payments.¹ This FAR clause does not require the use of invoices or vouchers when a letter of credit is utilized. FAR 52.232-12(a) states, "If a letter of credit is used, the Contractor shall withdraw cash only when needed for disbursements acceptable under this contract and report cash disbursements and balances as required by the administrative office."

In accordance with the contract, RPSC receives weekly cash advance drawdowns. The drawdowns are secured by a \$10 million corporate guarantee, which substantially reduces any risk to the U.S. Government. The drawdowns are supported by project reports estimating anticipated costs. The drawdowns are reviewed by the technical, contract and financial offices.

Since drawdown amounts are reviewed, the actual amounts showing on the public voucher that have not been reviewed are only the expenses that were not included in the drawdown request. The average net weekly timing differences (between the cumulative quarterly drawdowns and vouchers) for the four quarterly reports submitted in FY 2004 were \$2,905,538. This amount is at odds with the \$150 million claimed in the finding. Additionally, in only two of the quarters did RPSC expenditures exceed drawdowns.

No payments are made based on the public vouchers submitted by RPSC. The Contracting Officer simply selected the voucher as the accounting mechanism to report cash disbursements and balances, consistent with FAR 52.232-12(a). The public voucher, then, is the accounting vehicle that prompts the reclassification of payments from advances to expenses. Because no payments are made based on these public vouchers as provided in section 3325 of title 31 of the United States Code, the certification requirement in section 3528 (a) is irrelevant.

Submission of the public voucher by an authorized RPSC representative is deemed an electronic certification and signature by DFM. This will be formalized under the contract.

¹ RPSC is one of a small number of contracts in which the agency utilizes advance payments.

The finding describes the DFM process related to contract monitoring but fails to mention the controls in place in both the contracts and technical offices for overseeing contract expenditures.

Copies of RPSC's drawdown requests are sent to the Division of Contract and Complex Agreements (DCCA) and the Office of Polar Programs (OPP). DCCA and OPP review the drawdown for reasonableness based upon knowledge of past and planned expenditures and trends it has observed over time.

Additionally, DFM notifies DCCA, if the quarterly reconciliation reflects costs incurred against a project that has expended all of its funding or against line items known to be complete. DCCA addresses any problem with RPSC, negotiates resolutions, and advises DFM on recording proper expenditures.

Ultimately, DCCA relies on audit activities and reviews to assure that costs incurred are allowable, reasonable, and allocable to the contract. FAR clause 52.216-7, Allowable Costs and Payment, requires an annual cost incurred audit. DCCA has repeatedly requested that our Office of Inspector General (OIG) undertake audits for this contract and is pleased that OIG did agree to start a cost incurred audit in FY 2004. These cost incurred audits are the appropriate mechanism for detecting misstatements in expenditures; expenditures are considered final only after the completion of the incurred cost audit.

Additional controls under the RPSC are provided within DCCA. These include:

- Business System Reviews:
 - A business systems review addressing RPSC purchasing, property and personnel practices.
 - A second review addressing RPSC purchasing, accounts payable and personnel compensation practices.
- Subcontract Consent – To the extent that NSF has not granted purchasing authority to RPSC, DCCA reviews and must consent to RPSC subcontracts prior to their being awarded.
- Non-Payment of Subcontractors – DCCA is required to review subcontractor assertions of non-payment by RPSC and take action to protect the Government's interests.
- Annual Program Plan – DCCA oversees OPP's efforts to develop the Annual Program Plan in conjunction with RPSC, establishing the contractor's work requirements for each Government fiscal year. DCCA is

also the final approval authority for the Program Plan and any changes thereto.

- Special Program Reviews – DCCA supports and participates in special program reviews conducted by OPP (e.g., quarterly SPSE/SPSM reviews, ad hoc medical program review).
- Value Engineering Change Proposals – DCCA is responsible for accepting and negotiating any VECP's.
- Subcontracting Plan – DCCA administers RPSC's subcontracting plan for this contract.

Additionally, the Office of Polar Programs (OPP) centrally monitors the Raytheon contract and operations. The office monitors the project through a wide variety of methods and techniques. In addition to the COTR, seven OPP Program Officers are responsible for the budget development and oversight of each of the major functional areas of the contract, which includes performance and delivery of tasked services. The monitoring of the contract by OPP provides additional controls over contract expenditures.

- Financial Reporting – Financial reporting is supplemented through the Polar Operations Financial Management System (POFMS) through which RPSC reports expenditure information monthly. Additionally, The Deputy Section Head, Polar Research Support, who is also the Contracting Officer's Technical Representative on the NSF/RPSC contract, monitors expenditures through monthly financial status reports submitted by RPSC and through constant, near-daily interaction with RPSC's controller.
- Contractor Performance – Video-teleconferences are conducted quarterly between RPSC and OPP personnel to review contractor performance and discuss anticipated activities for the next 90 days.
- Annual Planning Conference – A planning conference is held annually to plan for future work and address continuing performance issues.
- Annual Program Plan – OPP and RPSC develop the Annual Program Plan, setting forth required work efforts and cost estimates for all activities anticipated for each fiscal year.
- Worksite Oversight – OPP assigns personnel (both operational and scientific) to various locations across the geographical area of operations (i.e., McMurdo Station, Amundsen-Scott South Pole Station, Palmer Station, and Christchurch, NZ) to oversee RPSC activities.

- Performance Evaluation – OPP annually evaluates the contractor's performance via an extensive list of performance metrics that are reviewed and updated annually. This makes up 75% of the performance score. The balance is a qualitative assessment of project management, and innovation. The total score is used to determine the contractor's annual fee.
- Engineering Support – To oversight more technical aspects of construction and engineering, OPP teams with other Federal agencies such as the Pacific Division (PACDIV) of the Naval Facilities Command and the Cold Regions Research and Engineering Laboratory of the Army Corps of Engineers to provide architectural, and engineering expertise to oversight design, and construction.
- Construction Inspection – On-site inspection of construction is done via a Title II inspector reporting to NSF via PACDIV.
- Project Feedback – Each science project supported in the field is debriefed at the completion of the field portion of their project and therefore provides their assessment to OPP of the support received from RPSC.
- Program Reviews – OPP conducts regular program reviews for projects of greatest significance (e.g., SPSE/SPSM and IceCube), and ad hoc program reviews addressing other contract performance matters (e.g., medical program) as required. Earned Value Management techniques are employed for projects that require significant budgetary resources.

Management disagrees with the contract monitoring finding and the second recommendation. Controls over expenditures are in place at the time of drawdown and through the term of the contract. The annual incurred cost audit is the appropriate mechanism for testing of expenditures against supporting documentation.