



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

MEMORANDUM

DATE: February 25, 2010

TO: Mary F. Santonastasso, Director
Division of Institution and Award Support

Karen Tiplady, Director
Division of Grants and Agreements

FROM: Laura Ann Koren, Audit Oversight Manager /s/
Office of Inspector General

SUBJECT: NSF OIG Audit Report No. 10-1-004, The Academy of Natural Sciences

Attached is the final internal control performance audit report, prepared by Mayer Hoffman McCann PC, an independent public accounting firm. The audit determined that, due to recent improvements and revisions made in April 2009 in the Academy's grant administration policies, procedures, and practices, the Academy's system of internal controls is adequate to provide reasonable assurance over financial compliance, reporting, and administration of its NSF awards. Overall, prior audit findings identified by the NSF OIG in 2000 and 2004 were corrected by ANS. However, this audit did identify three areas concerning subawardee monitoring and property management where internal controls and compliance could be improved; ANS immediately addressed and corrected matters brought to their attention by the auditors during this engagement.

Specifically, the auditors found that although the Academy had written and implemented procedures for the fiscal monitoring of its subawardees, these procedures did not have alternative subaward monitoring practices to compensate for when a subawardee was not required to obtain an OMB Circular A-133 audit. Additionally, these procedures did not include steps to assess risk to determine if additional monitoring steps were necessary for any of the Academy's subawardees. While the audit test work did not find any instances of unallowable or unallocable subawardee costs charged to NSF awards by the Academy, such additional steps would provide the Academy with greater assurance that the subawardee costs claimed on its NSF awards are reasonable, allowable, and allocable.

The auditors also noted that although the Academy's written policy and procedures included conducting 2 to 3 times per year a limited sampling inventories and occasional comprehensive inventories, the Academy's policies and procedures did not include the requirement to conduct a complete physical inventory of its federally-funded equipment and property at least once every two years, as required by federal guidelines and NSF grant requirements. Additionally, the auditors noted a segregation of duties issue in that all procedures related to federally-funded equipment and property record keeping and inventory were conducted by one Academy employee.

While the audit test work found no instances of unallowable, unallocable, missing or misappropriated federal equipment and property related to the Academy's NSF awards, the Academy's internal controls over such equipment and property could be strengthened if the Academy conducted an inventory of its federally-funded equipment and property record keeping once every two years and segregated the duty of equipment and property record keeping from that of conducting equipment and property inventory.

The above matters were brought to the attention of Academy management during the audit. Academy management responded by taking immediate action to correct each matter. Thus, the Academy updated its subawardee fiscal monitoring policy, as well as revised its written policies and procedures for federally-funded equipment and property to address each matter.

The auditor's recommendations take into account that the Academy implemented corrective actions before the conclusion of the engagement and that the auditor was able to verify those corrective actions as being initiated. Thus, the auditors recommended that NSF's Director of the Division of Institution and Award Support (DIAS) follow-up and ensure that: 1) the Academy's updated subawardee fiscal monitoring policy is fully implemented and operating effectively; 2) the Academy strictly adheres to its updated federally-funded equipment and property policy and procedures; and, 3) the Academy's updated federally-funded equipment and property policy and procedures as they relate to segregation of duties are operating effectively.

To help ensure the recommendations are resolved within six months of audit report issuance pursuant to OMB Circular A-50, please coordinate with our office during the resolution period. Each audit recommendation should not be closed until NSF verifies that the corrective actions implemented by the Academy in response to the auditor recommendations are operating effectively.

OIG Oversight of Performance Audit Engagement

To fulfill our responsibilities under Generally Accepted Government Auditing Standards, the Office of Inspector General:

- Reviewed Mayer Hoffman McCann's approach and planning of the audit;
- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the engagement at key points;
- Coordinated periodic meetings with Mayer Hoffman McCann and OIG management to discuss engagement progress, findings and recommendations;

- Reviewed the audit report prepared by Mayer Hoffman McCann to ensure compliance with Generally Accepted Government Auditing Standards and American Institute of Certified Public Accountants standards and Office of Management and Budget Circulars; and,
- Coordinated issuance of the audit report.

Mayer Hoffman McCann is responsible for the attached audit report on the Academy of Natural Sciences and the conclusions expressed in the report. The NSF OIG does not express an opinion on the audit report's conclusions.

We thank you and your staff for the assistance that was extended to our auditors during this audit. If you have any questions regarding this report, please contact me at 703-292-8456.

Attachment

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

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INTERNAL CONTROL PERFORMANCE AUDIT

JULY 1, 2008 – JUNE 30, 2009

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EXECUTIVE SUMMARY

This audit report provides the results of the performance audit we conducted to determine the adequacy of the Academy of Natural Sciences of Philadelphia's ("The Academy") internal controls over financial compliance, reporting, and administration of its National Science Foundation (NSF) awards. The Academy is a not-for-profit, tax-exempt organization, the mission of which is the encouragement and cultivation of the sciences.

The Academy was selected for audit by NSF's Office of Inspector General (OIG) to ensure that previously identified internal control weaknesses have been corrected and that existing internal controls over financial compliance, reporting, and administration of its NSF awards are working as intended. Specifically, a NSF-OIG audit of the Academy's calculation of its indirect cost rates for the year ending December 31, 2000, found material non-compliance issues related to fringe benefit costs, labor effort reporting, and federal property standards. In addition, a NSF-OIG review conducted in 2004 identified questionable travel expenses charged to NSF awards and a lack of segregation of grant administration duties at the Academy. As of June 2009, the Academy had 14 active NSF awards, totaling approximately \$2.6 million. Financial and accounting operations for the Academy's NSF awards are centralized under the Academy's Finance and Administration Department.

This audit determined that, due to recent improvements and revisions made in April 2009 in the Academy's grant administration policies, procedures, and practices, the Academy's system of internal controls is adequate to provide reasonable assurance over financial compliance, reporting, and administration of its NSF awards. Overall, prior audit findings were addressed. However, our audit did identify two areas concerning subawardee monitoring and property management where internal controls and compliance could be improved and both of these areas were immediately addressed and corrected during our engagement by Academy management.

Specifically, we found that although the Academy had written procedures in place for the fiscal monitoring of its subawardees, these procedures could be improved. For example, while the Academy's Controller annually reviewed subawardees' OMB Circular A-133 Single Audit reports and audited financial statements for any material weaknesses, we noted that one of the Academy's subawardees, due to its small size, was not subject to the OMB Circular A-133 Single Audit requirements. The Academy did not have alternative subaward monitoring procedures in place to compensate for when a subawardee was not required to obtain an OMB Circular A-133 audit.

EXECUTIVE SUMMARY

Similarly, the Academy's subawardee fiscal monitoring practices included procedures for reviewing subawardee invoices for reasonableness of expenditure levels, mathematical accuracy, and budgetary compliance. However, the Academy's subawardee monitoring procedures did not include steps to assess risk to determine if additional subawardee monitoring was necessary such as reviewing supporting documentation (vendor statements and expense reports) or conducting site visits, to verify that the costs claimed on subawardee invoices, submitted for reimbursement to the Academy, were in fact incurred and allowable. While our audit test work did not find any instances of unallowable or unallocable subawardee costs charged to NSF awards by the Academy, such steps would provide the Academy with greater assurance that the subawardee costs claimed on its NSF awards are reasonable, allowable, and allocable.

We also noted that the Academy's written policy and procedures did not require that it conduct a complete physical inventory of its federally-funded equipment and property at least once every two years, as required by federal guidelines and NSF grant requirements. Instead, the Academy's process was to select a sample of federally-funded equipment and/or property 2 to 3 times per year and perform a physical observation of these selected items to verify that the items in the accounting records existed, that they were in the designated location, and that they were properly tagged. The Academy management indicated that it did conduct full inventories though not every two years, however, the Academy could not produce documentation to show that it had performed the full inventories. While our audit test work did not find any instances of unallowable, unallocable, missing or misappropriated federal equipment and property related to the Academy's NSF awards, nonetheless, the Academy was not in compliance with the federal guidelines and NSF grant requirements for conducting a complete inventory of federally-funded equipment and property once every two years.

Finally, we noted that all procedures related to federally-funded equipment and property record keeping and inventory were the responsibility of one Academy employee, the Senior Accountant. While our audit test work found no instances of unallowable, unallocable, missing or misappropriated federal equipment and property related to the Academy's NSF awards, the Academy's internal controls over such equipment and property could be strengthened if the duty of equipment and property record keeping was segregated from that of conducting equipment and property inventory counts.

We brought all of the above matters to the attention of Academy management during our audit. Academy management responded by taking immediate action to correct each matter. Thus, the Academy updated its subawardee fiscal monitoring policy. This new subawardee monitoring policy includes a risk-based process to assess subawardee risk to the Academy in order to determine the level of subawardee oversight necessary. The risk level assigned during this risk assessment process will also determine the need for the Academy to perform monitoring steps beyond a review of the subawardee's OMB Circular A-133 audit report. This monitoring policy also addresses specific monitoring steps for subawardees that are not required to undergo an OMB Circular A-133 audit.

EXECUTIVE SUMMARY

Similarly, the Academy immediately conducted a complete physical inventory of federally-funded equipment and property, as well as revised its written policies and procedures for federally-funded equipment and property to include conducting a complete inventory once every two years. The Academy also revised this policy to include the segregation of the duty of equipment and property record keeping from that of conducting equipment and property inventory counts.

Our recommendations take into account that the Academy implemented corrective actions and that we verified those corrective actions were initiated during our audit. As a result, we recommend that NSF's Director of the Division of Institution and Award Support (DIAS) follow-up and ensure that: 1) the Academy's updated subawardee fiscal monitoring policy is fully implemented and operating effectively; 2) the Academy strictly adheres to its updated federally-funded equipment and property policy and procedures; and, 3) the Academy's updated federally-funded equipment and property policy and procedures as they relate to segregation of duties are operating effectively.

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BACKGROUND

The Academy of Natural Sciences of Philadelphia

The Academy of Natural Sciences (the Academy), located at Philadelphia, Pennsylvania, is a not-for-profit, tax-exempt organization that follows the administrative and cost principles specified by OMB Circulars A-110 (2 CFR Part 215), Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit Organizations; and, OMB Circular A-122 (2 CFR Part 230), Cost Principles for Non-Profit Organizations, respectively. The mission of the Academy is the encouragement and cultivation of the sciences. The institution is comprised of three main parts: Museum, Education and Research.

The Academy's museum has been in existence since 1812 and develops and presents exhibits and programs for varied audiences. The education programming promotes familiarity with and enthusiasm for, scientific discovery leading to increased understanding of the natural world while increasing comprehension of the relationship between people and their environment.

The Academy also has two research divisions. The Patrick Center for Environmental Research examines the impacts of human activities on water quality and on aquatic organisms in watersheds. The Center for Systematic Biology and Evolution maintains a world-class collection of 117 million specimens and focuses its research on the diversity of plants and animals, including the study of how these organisms evolve, adapt, survive or become extinct.

The Academy generates approximately \$20.4 million of annual revenues. The majority of the Academy's revenue is derived from grants and contracts, contributions, bequests, endowments, museum admissions, memberships, sales and fees. Of this annual revenue, approximately 13 percent or \$2.7 million is from federal financial assistance. For the fiscal year ended December 31, 2008, the Academy received federal revenues and support totaling \$10,317,609, of which 18% was from federal research and education funding. Total expenses for the fiscal year ended December 31, 2008 were \$14,847,412, of which \$1,558,722 (10.50%) were Federal expenditures. Of the Academy's total 2008 federal expenses, \$864,750 (55%) were expended on NSF awards.

As of June 2009, the Academy had 14 active NSF awards, totaling approximately \$2.6 million. 13 of the active NSF awards are operated under the Academy's Environmental Research Division; the remaining one active NSF award is operated under the Academy's Systematic Biology and Evolution Division. The financial and accounting operations for the NSF awards are centralized under the Academy's Finance and Administration Department.

BACKGROUND

Several internal control weaknesses have been previously identified in the Academy's financial compliance, reporting, and administration of its NSF awards by the NSF-OIG. During a NSF-OIG audit of the Academy's calculation of its indirect cost rates for the year ending December 31, 2000 (NSF-OIG Audit Report No. 03-1-006), auditors found material non-compliance issues related to fringe benefit costs, labor effort reporting, and federal property standards. Specifically, the auditors found that the Academy over-claimed fringe benefit costs in its indirect cost pool because the Academy's staff incorrectly included the cost of sick, vacation, and holiday pay during their calculation of the indirect cost pool. In addition, the Academy did not have an adequate system to track, document, and certify the labor effort of staff working in the Biodiversity Department. Further, the Academy's property records did not delineate between federally- and non-federally-funded assets.

Additionally, the auditors identified material errors in the Academy's calculation of its indirect cost rate that were caused by the lack of adequate control procedures related to the preparation and submission of the indirect cost proposal. In particular, the Academy's payroll and property records were not in compliance with Federal regulations, and the Academy did not have adequate policies and procedures related to the segregation of unallowable costs in its accounting system. Thus, the auditors found that the Academy's chart of accounts and general ledger did not separately identify allowable and unallowable costs, which resulted in \$12,690 of unallowable costs of alcohol and an award dinner in the indirect cost pool.

A proactive review conducted by the NSF-OIG in 2004 noted issues related to questionable travel expenses claimed by the Academy on one of its NSF awards and a potential lapse in the Academy's system for determining the reasonableness, allowability and allocability of expenses charged to the NSF awards. As a result of this proactive review, the Academy reimbursed NSF approximately \$400 for the questionable travel expenses that had been charged to its NSF awards.

Because of these previously-identified internal control weaknesses and because the Academy has continuously received additional NSF funding, the Academy was selected for a performance audit of its internal controls over financial compliance, reporting and administration of its NSF awards.

OBJECTIVES, SCOPE, AND METHODOLOGY

Objectives

The objectives of our internal control performance audit of the Academy were to determine whether the Academy's system of internal controls over financial compliance and reporting provides reasonable assurance that financial transactions are properly recorded and accounted for to NSF; financial transactions are executed in compliance with NSF award terms and conditions; and, funds and assets are safeguarded against loss from unauthorized use or disposition. We also determined whether the Academy's system of internal controls were effectively designed and implemented to:

- a. Prevent misstatements, misuse, or non-compliance with NSF award terms and federal regulations material to the financial reports of costs claimed by the Academy to NSF;
- b. provide for the preparation of reliable financial reports to NSF; and,
- c. maintain accounting over NSF funds and/or assets purchased with NSF funds.

Our objectives also included determining whether corrective actions planned by the Academy in its' response to NSF Audit Report No. 03-1-006, "Financial and Compliance Audit of Indirect Costs for the Year Ended December 31, 2000" were effectively implemented to correct the deficiencies identified in that report.

Scope

To address our objectives, we reviewed the Academy's internal controls over financial compliance, reporting, and administration of NSF awards for the following Federal compliance categories for the period of July 1, 2008 through June 30, 2009:

1. Activities Allowed and Allowable Costs;
2. Allowable Costs/Cost Principles;
3. Cash Management;
4. Equipment Management;
5. Matching;
6. Period of Availability of Federal Funds;
7. Procurement and Suspension and Debarment;
8. Reporting; and,
9. Subawardee Monitoring.

The control objectives of each of the nine Federal compliance areas identified above are defined as follows:

Allowable Activities and Allowable Costs: To provide reasonable assurance that Federal awards were expended only for allowable activities and that the costs charged to the Academy's NSF awards were allowable and in accordance with the applicable cost principles.

Allowable Costs/Cost Principles: To provide reasonable assurance that the Academy adhered to the specific Federal cost principles applicable to a not-for-profit organization.

OBJECTIVES, SCOPE, AND METHODOLOGY

Scope (Continued)

Cash Management: To provide reasonable assurance that the drawdown of Federal cash was only for immediate needs, and that the Academy limited payments to subawardees for immediate cash needs.

Equipment Management: To provide reasonable assurance that proper records were maintained for equipment acquired with Federal awards, and that federally-funded equipment was adequately safeguarded and maintained, and properly disposed of in accordance with Federal requirements.

Matching: To provide reasonable assurance that matching requirements were met using only allowable funds or costs which were properly calculated and valued.

Period of Availability of Federal Funds: To provide reasonable assurance that Federal funds were used only during the authorized period of availability.

Procurement and Suspension and Debarment: To provide reasonable assurance that procurement of goods and services were made in compliance with the provisions of the A-102 Common Rule or OMB Circular A-110, as applicable, and that covered transactions were not made with a debarred or suspended party.

Reporting: To provide reasonable assurance that financial reports of the Academy's NSF awards submitted to NSF included all activity of the reporting period, were supported by underlying accounting records and were fairly presented in accordance with the applicable requirements.

Subawardee Monitoring: To provide reasonable assurance that NSF award information and compliance requirements were identified to subawardees, subawardee activities were monitored, subawardee audit findings were resolved, and the impact of any subawardee noncompliance on the Academy was evaluated. Also, to determine if the Academy performed procedures to provide reasonable assurance that the subawardee obtained required audits and completed appropriate corrective action on audit findings.

Additionally, our scope included following up on the corrective actions implemented by the Academy in its response to NSF Audit Report No. 03-1-006, "Financial and Compliance Audit of Indirect Costs for the Year Ended December 31, 2000" to determine if they have been effectively implemented. The results of our follow-up have been included in Appendix B of this report.

OBJECTIVES, SCOPE, AND METHODOLOGY

Scope (Continued)

As of June 30, 2009, the Academy had 14 active NSF awards. Total NSF award expenditures claimed by the Academy on its Federal Financial Report for the quarter ended June 2009 were \$2,591,244. This amount represents the cumulative expenditures of these NSF awards from their inception, in September 2003, through June 2009. However, our audit focused on the Academy's internal controls over financial compliance, reporting, and administration of its NSF awards for expenditures claimed within the period of July 1, 2008 through June 30, 2009.

Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our audit fieldwork was completed on October 23, 2009.

The criteria we used for this performance audit included:

- The Committee of Sponsoring Organizations of the Treadway Commission's report: *Internal Control – Integrated Framework* (COSO Framework);
- Generally Accepted Government Auditing Standards;
- NSF Grants Policy Manual (GPM) (NSF 02-151);
- NSF awards specific terms and conditions; and,
- OMB Circulars A-110, A-122 and A-133.

Internal control is defined as a process affected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance, not absolute assurance, that the following objectives are being achieved:

- Effectiveness and efficiency of operations;
- Reliability of financial reporting; and
- Compliance with applicable laws and regulations.

OBJECTIVES, SCOPE, AND METHODOLOGY

Methodology (Continued)

Our performance audit of the Academy's internal controls over financial compliance, reporting, and administration of its NSF awards was conducted utilizing the components of internal control as presented in *Internal Control-Integrated Framework* (COSO Report), published by the Committee of Sponsoring Organizations of the Treadway Commission. The COSO Report framework for designing, implementing, and evaluating controls to facilitate compliance with the requirements of Federal laws, regulations and program compliance requirements includes five interrelated components:

- Control Environment;
- Risk Assessment;
- Control Activities;
- Information and Communication; and
- Monitoring.

Control Environment sets the tone of an organization influencing the control consciousness of its people. It is the foundation for all other components of internal control, providing discipline and structure.

Risk Assessment is the entity's identification and analysis of risks relevant to achievement of its objectives, forming a basis for determining how the risks should be managed.

Control Activities are the policies and procedures that help ensure that management's directives are carried out.

Information and Communication are the identification, capture, and exchange of information in a form and time frame that enable people to carry out their responsibilities.

Monitoring is a process that assesses the quality of internal control performance over time.

We utilized the above COSO Framework to evaluate and assess the Academy's internal controls over each of the nine Federal compliance areas referenced above to assess if the Academy's controls were adequate to meet the control objectives of that particular compliance area.

OBJECTIVES, SCOPE, AND METHODOLOGY

Methodology (Continued)

Thus, we assessed the Academy's control environment in terms of integrity and ethical standards, commitment to competence, management philosophy and operating style, organization structure, assignment of authority and responsibility, as well as human resource policies and practices. Specifically, we gathered information through interview and inquiry with the Academy's relevant officials and staff, as well as reviewed various documents. Documents reviewed included the Minutes to the Meetings of the Academy's Board of Trustees and the Board's different committees; the Academy's written policies and procedures on various financial, reporting and administrative areas; organization charts; the Academy's code of ethics and code of conduct; and employee job descriptions and performance evaluations. The procedures performed allowed us to assess the "attitude" or "tone at the top" of the Academy toward federal grant management in general, each of the Federal grant compliance areas, and NSF grant awards in specific.

To assess the Academy's risk assessment component of its internal control system, we interviewed Academy officials to obtain an understanding on how the Academy reviews its financial and administrative processes to identify any deficiencies or risk areas, and also to determine how the Academy reviews and updates its existing policies and procedures to address any identified deficiencies and risks. We also reviewed the Academy's written policies and procedures to determine if they are reviewed and updated annually or as necessary.

We obtained an understanding of the Academy's control activities covering each of the nine compliance areas through review of Academy policies and procedures, interviews, verification, and validation. We also conducted walk-throughs with Academy officials and the Academy staff responsible for performance of and/ or implementation of certain control activities on various financial and administrative processes. The processes for which we conducted walk-throughs included (1) hiring of new employees and assignment of employees to NSF grant programs; (2) labor effort reporting; (3) the initiation, review, and approval of payroll and non-payroll transactions, including the charging of costs to the Academy's NSF awards; (4) financial reporting, including the preparation of the Federal Financial Reports the Academy submits to NSF; (5) the drawdown of cash reimbursement from NSF for costs claimed on its NSF awards; (6) recording, tracking, inventorying and disposing of Federally-funded equipment and property; and, (7) the Academy's subawardee monitoring activities. We also reviewed the Academy's established written policies and procedures to determine that they exist and are adequate.

With the information gathered, we assessed if control activities were properly designed and adequate to provide reasonable assurance that the relevant compliance objectives were met. Further, we performed tests of controls in each of the nine Federal compliance categories utilizing each of the five components of COSO, to determine if the established control activities were in place and operating effectively. We designed and performed our testing based on our understanding of the Academy's specific control activities. Tests performed included inquiry, observation, reperformance and inspection of financial and administrative records and reports on a sample of financial and administrative transactions/processes related to the Academy's NSF awards, which were selected on a judgmental basis.

OBJECTIVES, SCOPE, AND METHODOLOGY

Methodology (Continued)

We determined the adequacy of the Academy's information and communication component of its system of internal controls through interviews with Academy personnel; observed and reviewed the Academy's written policies and procedures regarding information and communication, as well as reviewed relevant accounting and financial records. We interviewed Academy officials and staff to determine if they were provided with the necessary information and had the necessary knowledge and skills to perform their assignments and responsibilities. We also reviewed the Academy's written policies and procedures and observed its intranet to determine if the necessary policies and procedures existed and were effectively communicated to the relevant personnel. We also observed the Academy's accounting system and records, chart of accounts, and inventory database to determine if they were adequate to provide and maintain reliable and accurate financial and administrative information, and to determine if they were in compliance with applicable Federal and NSF requirements.

Next, we evaluated the monitoring component of the Academy's system of internal controls based on verification and validation of information gathered through inquiries with Academy officials and our review of financial and administrative records. We inquired with the Academy's personnel assigned with grant management responsibilities to determine the type of information they received and used, as well as the types of control activities they performed to ensure that established controls were being followed. We also reviewed financial and administrative records for evidence of monitoring activities over internal control performance.

Finally, we reviewed prior audit reports on the Academy's Federal grants management program performed by the Academy's OMB Circular A-133 auditors and the NSF-OIG to determine the extent, if any, of prior report findings and recommendations that would impact our performance audit of the Academy's internal controls over financial compliance, reporting, and administration of its NSF awards. Specifically, we reviewed prior audit reports and then interviewed the Academy's OMB Circular A-133 auditors and NSF-OIG staff to gain an understanding of the scope and procedures used in these prior audits, especially as related to the Academy's Federal grants management program. We also met with the Academy's A-133 auditors to discuss their overall audit scope and procedures for the Academy's compliance with various Federal grant compliance areas and to obtain the OMB Circular A-133 auditors' overall impression on the Academy's management. Accordingly, we reviewed the most current A-133 audit working papers available during our engagement to ascertain the actual audit scope and the audit procedures used by the Academy's auditors in order to (i) preclude any duplicative audit work and (ii) to determine the specific work the auditors performed, if any, on the Academy's NSF grant funds.

FINDINGS AND RECOMMENDATIONS

Finding 1. Fiscal Monitoring of Subawardees Could Be Improved

Although the Academy has written procedures in place for the fiscal monitoring of its subawardees, they could be improved. The Academy's written procedures included a review of subawardee OMB Circular A-133 audit reports and subawardee invoices, but did not include any details on specific fiscal monitoring activities or procedures for determining subawardee risk assessments. Without an assessment of the subawardee's risk, the Academy cannot determine the amount of subawardee monitoring necessary. As a result, the Academy's subawardee fiscal monitoring was limited and could be improved to provide greater assurance that the subawardee costs it claims are reasonable, allowable and allocable to its NSF awards.

The Academy currently has three NSF awards with subawardees. The total amount of subaward costs claimed as of June 30, 2009 was \$141,533 (approximately 5.46% of \$2,591,244 of total costs claimed on the Academy's June 30, 2009 Federal Financial Report submitted to NSF). No exceptions were noted during our audit testing of the Academy's internal controls over these subawardees.

2 CFR 215, Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (OMB Circular A-110), Subpart C, Section .51(a), states: "Recipients are responsible for managing and monitoring each project, program, subaward, function or activity supported by the award."

Further, OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, Subpart D, Section 400(d.3) – Pass-Through Entity Responsibilities, states: "A pass-through entity shall perform the following for the Federal awards it makes:... (3) Monitor the activities of subrecipients as necessary to ensure that Federal awards are used for authorized purposes in compliance with laws, regulations, and the provisions of contracts or grant agreements and that performance goals are achieved."

The Academy's Controller obtains and reviews its subawardees' OMB Circular A-133 Single Audit reports and audited financial statements annually for any material weaknesses, instances of non-compliance or findings related to Academy subawards. If there are any material weaknesses or instances of non-compliance related to any federal awards in these audit reports, the Controller follows up with the subawardee to ensure that any issues are properly and timely resolved. We did note that due to its small size, one of the Academy's subawardees, was not subject to the OMB Circular A-133 Single Audit requirements and, thus, no audit report review was conducted for this subawardee. Additionally, we noted that the Academy did not have alternative procedures to compensate for when a subawardee was not required to obtain an OMB Circular A-133 audit.

FINDINGS AND RECOMMENDATIONS

Finding 1. Fiscal Monitoring of Subawardees Could be Improved (Continued)

The Academy's subawardee fiscal monitoring also included procedures where the Principle Investigator of each NSF award and the Academy's Controller were responsible for reviewing subawardee invoices for reasonableness of expenditure levels, mathematical accuracy, and budgetary compliance. There is also regular Academy contact with subawardees to communicate applicable Federal and NSF provisions and compliance requirements for the Academy's NSF awards. However, the Academy's subawardee monitoring procedures did not include steps to assess risk to determine if additional monitoring was necessary such as reviewing supporting documentation (e.g., vendor statements and expense reports) or conducting site visits to verify that the costs claimed on subawardee invoices submitted for reimbursement to the Academy were in fact incurred and allowable. The Academy's subawardee monitoring procedures would be strengthened if it included such steps to verify subawardee costs are allowable and allocable to the Academy's NSF awards.

Academy management advised us that it was aware of the requirements of OMB Circular A-133 regarding subaward monitoring and that it was in the process of developing its subawardee monitoring plan before the audit began. However, because the Academy has limited resources available for subawardee monitoring activities, and because the Academy's subawardee costs are only 5 percent of the total costs claimed on its NSF awards, the process had not yet been completed. The issue of limited resources also caused the Academy to place heavy reliance on the OMB Circular A-133 single audit review process it has in place to ensure that its subawardees have adequate internal controls for financial reporting and compliance with applicable Federal and NSF provisions.

As a result of our audit, the Academy updated its subawardee monitoring procedures to include a risk-based process that will be utilized to assess the risk of its subawardees to determine the level of subawardee oversight necessary. The risk level assigned during this risk assessment process would determine the need for performing monitoring steps beyond a review of the OMB Circular A-133 audit report results, such as more detailed and frequent reporting requirements, site visits, and sampling of supporting documentation for costs claimed to the Academy. The Controller will be responsible to perform the risk assessment and the Vice President, Finance and Administration, will be responsible to ensure that adequate arrangements are in place to mitigate the identified risks. The updated subaward monitoring plan also addresses specific monitoring steps for subawardees that are not required to undergo an OMB Circular A-133 single audit.

Recommendation 1:

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) ensure that the Academy's updated subawardee fiscal monitoring policy is fully implemented and operating effectively.

FINDINGS AND RECOMMENDATIONS

Finding 1. Fiscal Monitoring of Subawardees Could be Improved (Continued)

Awardee's Comments

Academy management agreed the current subawardee monitoring procedure could be strengthened. The new procedures, developed and presented during the audit, have been implemented. The revised procedures place greater emphasis on the proposal preparation stage and the selection of potential subrecipients. It also strengthens ongoing monitoring of current subawardees utilizing a risked based process to determine the level of oversight necessary. The new procedures fully address the auditors' finding.

Auditor's Response

The Academy's comments are responsive to the finding and recommendation.

Finding 2. Inadequate Compliance with Bi-Annual Inventory Requirement for Federally-Funded Equipment and Property

The Academy's written policies and procedures did not require that it conduct a complete physical inventory of its federally-funded equipment and property at least once every two years, as required by federal guidelines and NSF grant requirements. However, the Academy's procedures did require a sample inventory be taken 2 to 3 times per year. In addition, for the complete inventories that it did conduct, the Academy could not provide documentation to show that it had performed such inventories. Thus, the Academy's written policy and procedures were not adequate to ensure full compliance with the applicable bi-annual inventory requirement for federally-funded equipment and property. The total amount of equipment costs claimed by the Academy to NSF as June 30, 2009 was \$113,813.

The *Internal Control – Integrated Framework, Committee of Sponsoring Organizations of the Treadway Commission* (July 1994, pp. 13 -16) states that "Internal Control is a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categor(y)...compliance with applicable laws and regulations....Achievement of [these] objectives are based largely on standards imposed by external parties."

2 CFR 215, Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (OMB Circular A-110), Subpart C, Section 215.34(f)(3), states: "A physical inventory of equipment shall be taken and the results reconciled with the equipment records at least once every two years. Any differences between quantities determined by the physical inspection and those shown in the accounting records shall be investigated to determine the causes of the difference."

During our audit, we reviewed the Academy's federally-funded equipment and property records and found that instead of conducting a complete physical inventory every two years, the Academy's process was to select a sample of equipment 2 to 3 times per year. Using that sample, Academy personnel performed a physical observation to verify that the equipment in its accounting records existed, was in the designated location, and was properly tagged.

FINDINGS AND RECOMMENDATIONS

Finding 2. Non-Compliance with Federally-Funded Equipment and Property Requirement (Continued)

We next reviewed the Academy's written policies and procedures and equipment records, and found that the Academy properly tracks federally-funded equipment and property in an Access database. The Academy's Access database included sufficient detail of each piece of federally-funded equipment as required by OMB Circular A-110, such as description of the equipment, source of the equipment, acquisition date and costs, and location. We also performed a physical observation on a sample of equipment and found that the information in the Access database agreed to our sampled equipment and that the sampled equipment was properly tagged. Thus, there were no exceptions noted in our testing of the Academy's internal controls related to its sample inventories of federally-funded equipment and property. However, the Academy did not maintain any records to support that a full inventory was performed once every 2 years and its written policy did not include such procedures.

According to Academy management, although the complete inventory requirement was not included in its written policy and procedures, management was aware of such requirements. Due to its limited resources, according to officials, in addition to performing sample tests of the inventory, the Academy did conduct comprehensive inventories of its federally-funded property and equipment, though not necessarily every two years. Moreover, because the staff member who was responsible for performing the equipment and property inventory left the organization, the Academy was not able to locate the relevant records for the complete equipment inventory that was conducted.

Thus, the Academy is not in compliance with the federal guidelines and NSF grant requirements for conducting inventory of federally-funded equipment and property. Without adequate written policy and procedures and the performance of a comprehensive equipment and property inventory every two years, the Academy is unable to provide reasonable assurance that the equipment it acquired with Federal award funds is adequately safeguarded and maintained in accordance with Federal and grant requirements.

We brought this issue to the attention of the Academy's management during fieldwork. The Academy's management immediately updated its written policy and procedures for federally-funded equipment and property during our audit to include complete equipment inventory procedures. The Academy also assigned responsibilities for these procedures to the Office Manager and the Grant Accountant, with the assistance of the Senior Accountant. A full inventory of all Federally-funded equipment and property was then immediately completed by the Academy. The Academy also provided documentation to us to evidence that the required federally-funded equipment and property inventory was completed and reconciled to the accounting records and that the Academy's policies and procedures were updated accordingly.

Recommendation 2:

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) ensure that the Academy strictly adheres to its updated federally-funded equipment and property policy and procedures.

FINDINGS AND RECOMMENDATIONS

Finding 2. Non-Compliance with Federally-Funded Equipment and Property Requirement (Continued)

Awardee's Comments

Academy management acknowledged the oversight of excluding the bi-annual inventory language in the written policy and procedures regarding federal property and equipment. Management responded immediately, revising the documents to include the required language and conducting a complete inventory of all federal property and equipment. The revised policy and procedures, along with evidence of a full federal property and equipment inventory, were presented to the auditors at that time. Management is confident the actions taken will ensure future compliance.

Auditor's Response

The Academy's comments are responsive to the finding and recommendation.

Finding 3. Inadequate Segregation of Duties for Equipment and Property Management

During our audit, we noted that all procedures related to equipment record keeping and equipment inventory were the responsibility of one Academy employee, the Senior Accountant. While we tested internal controls related to the Academy's federally-funded equipment and property and found no exceptions, nonetheless, the Academy's internal control over federally-funded equipment and property management could be strengthened if the duty of equipment record keeping was segregated from that of conducting the inventory of the equipment.

In *Internal Control – Integrated Framework, Committee of Sponsoring Organizations of the Treadway Commission* (July 1994, p. 28), “significant aspects of establishing a relevant organizational structure include defining key areas of authority and responsibility...This includes assignment of authority and responsibility for operating activities, and establishment of reporting relationships and authorization protocols.” COSO further indicates that “deficiencies in the way that authority and responsibility are assigned to employees in accounting, custodial and asset management functions may affect the entity's ability to achieve its [goals and objectives].” (*Internal Control*, p.130). Thus, segregation of duties is an important preventive control, the purpose of which is to aide an organization in providing reasonable assurance that it will meet its goals and objectives while “avoiding an unintended event or result.” *Internal Control*, p. 28.

Additionally, 2 CFR 215, Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (OMB Circular A-110), Subpart C, Section 215.21(b), states: “Recipients' financial management systems shall provide for the following ... (3) Effective control over and accountability for all funds, property and other assets. Recipients shall adequately safeguard all such assets and assure they are used solely for authorized purposes.”

FINDINGS AND RECOMMENDATIONS

Finding 3. Inadequate Segregation of Duties for Equipment and Property Management (Continued)

On a monthly basis, the Senior Accountant generates a Cost Analysis Report using specific job and cost codes to determine if any equipment and property were purchased with Federal funds during the month. The Senior Accountant also uses this Cost Analysis Report to identify purchases that meet the Academy's capitalization criteria and to identify other property outside the capitalization threshold that may be at high risk for theft or misappropriation, e.g., laptops, computers, or cabinets, and such items will also be included in the Academy's database.

After identifying the newly purchased equipment and property, the Senior Accountant compiles information, such as a description of the item, department and responsible person, purchase date, purchase order number, vendor name, costs, funding source, and enters the information for each piece of equipment and property into the Academy's Access database.

After inputting the information for the equipment or property into the database, the Senior Accountant then contacts the Academy employee responsible for the item, usually the PI or the department head, to arrange tagging identification numbers for the item. The Senior Accountant has a roll of pre-printed and pre-numbered tags. The numbers on the tags all start with a letter "F", to indicate that the item was purchased with federal funds. Only federally-funded items have tags starting with "F". After tagging the item, the Senior Accountant inputs the tag number and the item location into the database.

Twice a year, the Senior Accountant performs random sample review of physical inventory. He does this by first generating an Auditing Check report and a Federal Plant, Property and Equipment (PPE) report from the database. The Auditing Check report shows the tag numbers and the locations of the equipment and property. The Federal PPE report shows the detail of equipment and property by Federal job. He then randomly selects 8 to 12 items and physically locates them to check if the information on the items matches the information on the Auditing Check report and the Federal PPE report.

As noted above, the entire process from equipment data entry to equipment inventory is performed by the same person, the Senior Accountant. This lack of segregation of duties also weakens the internal control structure over equipment and property because segregation of serves as a preventive control to reduce the risk of recordkeeping errors and misappropriation. Thus, without adequate segregation of duties in equipment and property management, the Academy is weakening its ability to safeguard its federal equipment and property assets.

Academy management acknowledged awareness that the Senior Accountant's responsibilities included all aspects of Federal equipment management but did not consider this a significant risk or exposure, given the low volume and dollar value of federal equipment and property purchase activity. However, after we discussed the issue with the Academy's management, the Academy immediately updated its written policy and procedures on equipment and property management during our audit to require that equipment inventory be performed by a staff member other than the Senior Accountant.

FINDINGS AND RECOMMENDATIONS

Finding 3. Inadequate Segregation of Duties for Equipment and Property Management (Continued)

Recommendation 3:

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) ensure that the Academy's updated federal equipment and property policy and procedures that relate to segregation of duties are operating effectively.

Awardee's Comments

As noted in the finding, Academy management immediately updated the written procedures and reassigned the physical inventory responsibilities away from the Senior Accountant. The steps taken segregate the data entry and management from the actual physical inventory process. Management agrees the segregation of Senior Accountant's duties strengthens the internal controls over federal property and equipment.

Auditor's Response

The Academy's comments are responsive to the finding and recommendation.

**APPENDIX A – AUDITEE’S COMMENTS TO
REPORT**

**APPENDIX B – STATUS OF PRIOR AUDIT
FINDINGS**

STATUS OF PRIOR AUDIT FINDINGS

NSF-OIG performed an audit of the Academy's calculation of its indirect cost rates for the year ending December 31, 2000 and issued Audit Report No. 03-1-006. During our audit, we followed up on the deficiencies identified in that NSF-OIG Audit Report. The status of those deficiencies are as follows:

1. Costs of Sick, Vacation, and Holiday Pay Were Incorrectly Included in the Indirect Cost Pool.

Status: The issue has been satisfactorily addressed by the Academy. We reviewed the Academy's cost allocation policy and its indirect cost proposal for FY 2008. We noted that the Academy separates fringe benefits between direct costs and indirect costs. In addition, the Academy has established four indirect cost pools, including (1) Facilities/Building Operations; (2) General Administration; (3) Library Expenses; and (4) Research Administration. Only those fringe benefits related to these areas are included as indirect costs in the calculation of the indirect cost pools.

We also noted that the Academy submits annually its indirect cost proposal together with the financial data of the fiscal year to NSF for review and approval of its indirect cost rate.

2. Inadequate System to Track, Document and Certify Labor Effort.

Status: The issue has been satisfactorily addressed by the Academy. During our audit, we noted that the Academy has established written policy and procedures on employee timekeeping and labor effort reporting. Employees are required to fill out their timesheets and record the number of hours they work on each federal program or federal award for each pay period. The timesheets must be signed by the employees, and reviewed and signed by the employee's supervisor. The timesheets are also reviewed by the Office Manager and the Science Administrator Director to ensure that they are properly signed by the employees and the employees' supervisor, and that they are mathematically accurate and correctly coded.

STATUS OF PRIOR AUDIT FINDINGS (CONTINUED)

3. Property Records Did Not Delineate Between Federally- and Non-Federally-Funded Assets.

Status: The issue has been satisfactorily addressed by the Academy. During our audit, we noted that the Academy has established written policy and procedures on tracking of Federally-funded equipment and property. The Academy utilizes a specific job code and cost code in its accounting system, LIBRA, to identify any equipment and property purchased with Federal funds. In addition, the Academy maintains separate binders and an Access database to keep track of all Federally-funded equipment and property. All Federally-funded equipment and property are identified in the inventory records with a letter "F".

4. Lack of Adequate Control Procedures Related to the Preparation and Submission of the Indirect Cost Proposal.

Status: The issue has been satisfactorily addressed by the Academy. During our audit, we noted that the Academy has established written policy and procedures on the preparation of indirect cost proposals and a cost allocation policy. Allowable and unallowable cost components are clearly defined in these policies and procedures. In addition, we noted that the Controller of the Academy is responsible for the preparation of the indirect cost proposal. The Vice President of Finance and Administration of the Academy is responsible to review and approve the indirect cost proposal before it is submitted to NSF for review.

5. Chart of Accounts and General Ledger Did Not Separately Identify Allowable and Unallowable Costs.

Status: The issue has been satisfactorily addressed by the Academy. During our audit, we noted that the Academy's accounting system is adequate to ensure that allowable and unallowable costs are separately accounted for. The Academy utilizes its accounting system, LIBRA, to identify and track the expenditures of each NSF award. Each NSF award is assigned a unique Job Code with a separate account string to track its own expenditures. All unallowable costs are booked under a separate account string ("7797" series) outside the Job Code to ensure that only allowable costs are reported to NSF. Separate Job codes and cost codes are used to identify each Federal program and different cost categories. Therefore, the accounting system is capable of and is being used to track allowable and unallowable costs separately for Federal awards.

APPENDIX C – EXIT CONFERENCE

EXIT CONFERENCE

We conducted an exit conference on October 23, 2009 at the Academy's office in Philadelphia, Pennsylvania. We discussed preliminary findings and recommendations noted during the audit. Representing the Academy were:

Name	Title
[REDACTED]	[REDACTED]

Representing Mayer Hoffman McCann P.C. – Conrad Government Services Division were:

Name	Title
[REDACTED]	[REDACTED]

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