



National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

Office of Inspector General

MEMORANDUM

Date: SEP 28 2007

To: Mary F. Santonastasso, Director
Division of Institution and Award Support
Deborah H. Cureton

From: Deborah H. Cureton
Associate Inspector General for Audit

Subject: Audit Report No. OIG-07-1-020
University of Maryland Baltimore County

Attached is the final report prepared by Mayer Hoffman McCann P.C., an independent public accounting firm, on the audit of NSF Award Nos. EHR-0514420, HRD-0000295, and IIS-0121570 awarded to the University of Maryland Baltimore County (UMBC). The audit covered NSF-funded costs claimed from November 1, 2000 to March 31, 2006 aggregating to approximately \$9.4 million of NSF direct funded costs and approximately \$5.6 million of cost sharing.

Overall, the auditors determined that the costs claimed by UMBC appear fairly stated and are allowable, allocable, and reasonable for the three NSF awards, although there were questioned costs in the amount of \$174,655 of the \$9.4 million in costs claimed to NSF. However, the auditors noted four compliance and internal control deficiencies in UMBC's financial management practice, one of which is material, and three that are considered significant. Although presently these deficiencies did not result in egregious findings, the auditors believe that these deficiencies could have a significant impact on UMBC's ability to efficiently and effectively administer funds in a manner that is consistent with NSF and other federal laws and regulations, if left uncorrected.

Specifically, UMBC personnel did not always follow the cost accounting procedures in place to ensure that the costs charged to NSF awards were accurate, allowable and allocable. The auditors found this to be a material weakness. UMBC's cost accounting procedures required the establishment of separate accounts to capture costs incurred for each NSF award; the performance of monthly analysis of award expenditures to ensure that costs claimed to a particular NSF award were reasonable and allowable; and, a PeopleSoft time certification and personnel activity reporting system to capture labor effort reporting. The inconsistent use of cost accounting procedures resulted in inaccurate labor, fringe, and participant support costs being charged to NSF award numbers EHR-0514220 and HRD-0000295 in the amount of \$41,511. Likewise, the inconsistent use of cost accounting procedures resulted in \$316,692 of erroneous labor, fringe, participant

support and indirect charges to NSF awards. Of this amount, UMBC overcharged \$287,738 and undercharged \$28,954. The \$316,692 of errors was corrected by UMBC on its March 31, 2006 FCTR and was not questioned by the auditors. However, \$41,511 of improper charges and \$5,798 of associated indirect costs had not been corrected by UMBC as of March 31, 2006, the end date of this audit. As such, the auditors questioned a total of \$47,309.

Likewise, UMBC did not always monitor, in accordance with its established procedures, the subaward costs it charged to its NSF awards. As a result of this internal control deficiency, UMBC could not ensure the accuracy or validity of the subaward costs charged to its NSF awards. The auditors performed additional testing at two subawardee sites. Although the auditors only questioned \$1,634 of indirect costs claimed by a subawardee under NSF award number HRD-0000295, UMBC's lack of subawardee monitoring could cause future noncompliance issues and unallowable costs to be charged to NSF awards, if left uncorrected.

Additionally, UMBC did not have adequate procedures to monitor the cost sharing expenditures claimed by its subawardees. Although UMBC's subaward agreements require its subawardees to document their cost sharing, UMBC never enforced this requirement and never requested cost sharing data or cost sharing supporting documentation from its subawardees. UMBC claimed subawardee cost sharing for approximately \$2.4 million (44% of the total cost share it claimed) in expenditures for NSF award number HRD-0000295 based solely on the cost sharing budgets of its subawardees. As a result of this internal control weakness, UMBC could not be certain that the cost sharing amounts it claimed to NSF for its subawardees was in fact correct. Because UMBC did not monitor cost sharing expenditures claimed by its subawardees, the auditors were required to perform on-site audit procedures at both subawardee locations to affirm that cost sharing claimed was allowable, allocable and sufficiently supported. Although the auditors were able to satisfy themselves that the cost sharing UMBC reported to NSF for award number HRD-0000295 was verifiable, UMBC lacked the controls in its cost sharing procedures to adequately monitor subawardee cost sharing. Thereby, errors on cost sharing submitted by other current or future subcontractors could go undetected. UMBC is responsible for monitoring the cost share amounts claimed by its NSF grant subawardees pursuant to its grant agreement with NSF.

Finally, UMBC did not have adequate procedures in place to detect errors in the amount of indirect costs it claimed to NSF. UMBC relied on its accounting system to automatically calculate and record the amount of indirect costs to charge to its NSF awards. As a result, UMBC overstated its indirect costs to NSF in the amount of \$125,584 for NSF award number EHR-0514420 and \$5,926 for NSF award number IIS-0121579 for a total overcharge of \$131,500 of indirect costs, which is 1.4 % of the total \$9.3 million claimed on all three awards under audit. Mischarges of a similar nature could occur in the future if this internal control deficiency is left uncorrected.

To address these compliance and internal control deficiencies, we recommend that your office direct UMBC to (1) develop a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities, staff its OSP and OCGA departments appropriately, and adhere to its subaward monitoring policies and procedures; (2) develop and implement written policies and procedures to obtain and review cost sharing data and related supporting documentation from its subawardees on a regular basis; (3) develop and implement written policies and procedures to perform periodic reviews of individual departments and divisions for compliance with and proper implementation of established cost control processes in a timely manner; and

provide necessary assistance and training to individual departments or divisions which have difficulties in following the established controls and, (4) develop and implement adequate procedures to review indirect costs charged to NSF awards for allowability and allocability, including procedures for recalculation of indirect costs to ensure that the amount charged to each NSF award is accurate and allowable.

The awardee responded that it concurred with all the report findings. UMBC officials indicated that they were in the process of (1) developing a comprehensive subawardee fiscal monitoring plan, (2) developing and implementing written policies and procedures to obtain and review cost sharing data and related supporting documentation from subawardees, (3) developing and providing training to departments for grant reconciliation, including procedures to review and recalculate indirect costs, and (4) reorganizing its Office of Sponsored Programs and Office of Contract and Grant accounting.

Please coordinate with our office during the resolution period to develop a mutually agreeable resolution of the audit findings. The findings should not be closed until NSF determines that all recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

We are providing a copy of this memorandum to the Division Directors of EHR/HRD and CISE/IIS. The responsibility for audit resolution rests with the Division of Institution and Award Support, Cost Analysis and Audit Resolution Branch (CAAR). Accordingly, we ask that no action be taken concerning the report's findings without first consulting CAAR at 703-292-8244.

OIG Oversight of Audit

To fulfill our responsibilities under 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 audit at key points;
- Coordinated periodic meetings with Mayer Hoffman McCann and NSF officials, as necessary, to discuss audit progress, findings, and recommendations;
- Reviewed the audit report, prepared by Mayer Hoffman McCann to ensure compliance with Government Auditing Standards and the NSF Audit Guide; and
- Coordinated issuance of the audit report.

Mayer Hoffman McCann is responsible for the attached auditor's report on University of Maryland Baltimore County and the conclusions expressed in the report. We do not express any opinion on the Schedules of Award Costs, internal control, or conclusions on compliance with laws and regulations.

We thank 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 703-292-4985 or Jannifer Jenkins at 703-292-4996.

Attachment

cc: Victor Santiago, Division Director, EHR/HRD
A. James Hicks, Program Director, EHR/HRD
Haym Hirsh, Division Director, CISE/IIS

#07-1-020

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
1000 HILLTOP CIRCLE, BALTIMORE, MD 21250

NATIONAL SCIENCE FOUNDATION AWARD NUMBERS
EHR-0514420
HRD-0000295
IIS-0121570

FINANCIAL AUDIT OF FINANCIAL SCHEDULES AND
INDEPENDENT AUDITORS' REPORT
NOVEMBER 1, 2000 TO MARCH 31, 2006

MAYER HOFFMAN McCANN P.C.
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UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

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EXECUTIVE SUMMARY

BACKGROUND

We audited funds awarded by the National Science Foundation (NSF) to University of Maryland, Baltimore County (UMBC) under award numbers EHR-0514420, HRD-0000295, and IIS-0121570 for the period November 1, 2000 to March 31, 2006. UMBC, as a Federal awardee, is required to follow the cost principles specified in Office of Management and Budget (OMB) Circular A-21, *Cost Principles for Educational Institutions*, and the Federal administrative requirements contained in OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*.

University of Maryland, Baltimore County (UMBC), established in 1966, is a college within the University System of Maryland. It is a public research university, integrating teaching, research and service to benefit the citizens of Maryland. The campus offers academically talented students a strong undergraduate liberal arts foundation that prepares them for graduate and professional study, entry into the workforce, and community service and leadership. UMBC emphasizes science, engineering, information technology, human services and public policy at the graduate level. UMBC contributes to the economic development of the state and the region through entrepreneurial initiatives, workforce training, K-16 partnerships, and technology commercialization in collaboration with public agencies and the corporate community.

Descriptions of the NSF awards we audited are as follows:

Award EHR-0514420 – UMBC-BCPS STEM (STEM) Project. NSF awarded EHR-0514420 to UMBC for the period January 1, 2005 to December 31, 2008 in the amount of \$3,173,579. This award replaces award number EHR-0227256 and facilitates the implementation, testing, refinement, and dissemination of promising practices for improving STEM student achievement as well as teacher quality/retention in selected high-needs elementary, middle, and high schools in the Baltimore County Public Schools (BCPS) system. The project plans to create evaluation performance based pre-service teacher education (interns) programs and sustainable professional development programs for teachers and administrators. UMBC and BCPS will establish a Center for Excellence in STEM Education for faculty and BCPS staff to develop projects to serve the BCPS. Cumulative disbursements for award number EHR-0514420 reported to NSF through March 31, 2006 were \$2,025,940.

Award HRD-0000295 – University System of Maryland Louis Stokes Alliance for Minority Participation (USM LSAMP). NSF awarded HRD-0000295 to UMBC for the period November 1, 2000 to March 31, 2006 in the amount of \$8,617,624, with a cost sharing requirement of \$5,882,672. The USM LSAMP is a comprehensive program designed to increase the quantity and quality of minority students receiving baccalaureate degrees in science, mathematics, engineering, and technology (SMET). The primary goal of USM LSAMP is to produce approximately 3,627 minority SMET baccalaureate recipients from the 2000-2001 through the 2004-2005 academic years. The secondary goals of the program are to increase the number of minority students entering SMET graduate programs and to increase the number of minority students entering SMET careers, especially faculty positions. Under this award, UMBC also provides funds to University of Maryland Eastern Shore and University of Maryland College Park and 18 public community colleges in Maryland for minority participation at those campuses. Cumulative disbursements for award number HRD-0000295 reported to NSF through March 31, 2006 were \$6,781,311. Cost share claimed totaled \$5,559,109.

Award IIS-0121570– ITR/PE: Universal Access for Situationally Induced Impairments: Modeling, Prototyping, and Evaluation (ISS). NSF awarded ISS-0121570 to UMBC for the period September 15, 2001 to March 31, 2006 in the amount of \$1,083,020. The goal of this project is to address the issues involved in developing effective computer systems for individuals experiencing situationally-induced impairments (SII). Such impairments exist when the physical, cognitive, or perceptual demands placed on the computer users exceed their abilities. SII are temporary, resulting from the environment in which the work is being performed or the tasks in which the user is engaged. The program will develop new techniques for identifying and documenting the factors that contribute to SII, identify methods for developing solutions that address the temporary and dynamic nature of SII, and compare the interaction strategies of individuals experiencing SII to those of individuals with comparable disability-induced impairments (DII). Cumulative disbursements for award number IIS-0121570 reported to NSF through March 31, 2006 were \$561,262.

AUDIT OBJECTIVES, SCOPE & METHODOLOGY

The objectives of our audit were to:

1. Determine if UMBC's Schedules of Award Costs (Schedules A-1 through A-3) present fairly, in all material respects, costs claimed on the *Federal Cash Transactions Reports (FCTR)* – Federal Share of Net Disbursements, and the cost claimed, including cost sharing, are in conformity with Federal and NSF award terms and conditions.
2. Identify matters concerning instances of noncompliance with laws, regulations, and the provisions of the award agreements pertaining to NSF awards, and weaknesses in UMBC's internal control over financial reporting that could have a direct and material effect on the Schedules of Award Costs and UMBC's ability to properly administer, account for, and monitor its NSF awards.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America, *Government Auditing Standards* (2003 Revision) issued by the Comptroller General of the United States, and the *National Science Foundation Audit Guide* (September 1996), as applicable. These standards and the NSF Audit Guide require that we plan and perform the audit to obtain reasonable assurance about whether amounts claimed to NSF as presented in the Schedules of Award Costs (Schedules A-1 through A-3) are free of material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Schedules of Award Costs. An audit also includes assessing the accounting principles used and the significant estimates made by UMBC, as well as evaluating the overall financial schedule presentation. We believe that our audit provides a reasonable basis for our opinion.

SUMMARY OF AUDIT RESULTS

An audit was performed on the costs claimed on the financial reports submitted to NSF by UMBC on NSF award numbers EHR-0514420, HRD-0000295 and IIS-0121570, as well as cost sharing provided on NSF award number HRD-0000295. These costs and the costs questioned

as a result of our audit are shown in the Schedules of Award Costs (Schedules A-1 through A-3) and are summarized as follows.

<u>NSF Award No.</u>	<u>Award Budget</u>	<u>Claimed Costs</u>	<u>Questioned Costs</u>
EHR – 0514420	\$ 3,173,579	2,025,940	136,125
HRD – 0000295	8,617,624	6,781,311	32,604
IIS – 0121570	<u>1,083,020</u>	<u>561,262</u>	<u>5,926</u>
Total	\$ <u>12,874,223</u>	<u>9,368,513</u>	<u>174,655</u>

<u>Cost Sharing</u>	<u>Award Budget</u>	<u>Claimed Costs</u>	<u>Questioned Costs</u>
HRD – 0000295	\$ <u>5,882,672</u>	<u>5,559,109</u>	
Total	\$ <u>5,882,672</u>	<u>5,559,109</u>	

Except for the \$174,655 (1.86% of 9.37 million in total claimed costs) in questioned salaries and wages, fringe benefits, participant support costs, subaward costs and indirect costs described below, we determine that the costs claimed by UMBC appear fairly stated and are allowable, allocable and reasonable for all three NSF awards.

Specifically, under NSF award number EHR-0514420, we questioned \$8,861 of salaries and wages and \$1,680 of related fringe benefits for a total of \$10,541 because adjustments were made to labor effort reports at UMBC which reduced the labor costs originally charged to the NSF grant on its March 31, 2006 FCTR. We also questioned \$125,584 of indirect costs because this amount of indirect costs was calculated using certain direct costs which were erroneously charged to the NSF grant, later reversed from UMBC's accounting records through a correcting journal entry, but nonetheless still remained as a claimed cost charged to the NSF grant.

We also questioned \$30,970 of participant support under NSF award number HRD-0000295 because these costs were related to another NSF award and not to the NSF award to which they were charged. In addition, one of UMBC's subawardees used an incorrect indirect cost rate to compute indirect costs and the \$1,634 of incorrectly calculated indirect costs were passed on to NSF through the subaward cost category claimed by UMBC. We questioned a total of \$32,604 of costs for HRD-0000295.

Finally, the \$5,926 of indirect costs questioned under NSF award number IIS-0121570 resulted from UMBC misclassifying subaward costs as supplies in its accounting system. The misclassification of these costs caused the over-charging of indirect costs.

We noted four compliance and internal control deficiencies in UMBC's financial management practice, of which one is material, that contributed to these questioned costs. Additionally, these deficiencies could have a significant impact on UMBC's ability to efficiently and effectively administer funds in a manner that is consistent with NSF and other Federal laws and regulations if left uncorrected. Specifically:

- UMBC did not always monitor, in accordance with its established procedures, the subaward costs it charged to its NSF awards. Except for the subawardee under NSF award number EHR-0514420, all four of the subawardees under award numbers HRD-0000295 and IIS-0121570 did not submit any form of documentation to support the costs claimed on the invoices submitted to UMBC for reimbursement. Additionally, UMBC did not perform any periodic monitoring of its subawardees to ensure that the expenditures incurred and claimed by its subawardees were accurate, valid, allowable and adequately documented. The two subawardees under NSF award number HRD-0000295 claimed approximately \$2.65 million or 39% of the total costs charged to the award. The other two subawardees under NSF award number IIS-0121570 claimed approximately \$219,000 or 39% of the total costs charged to the award. As a result of this internal control deficiency, we were required to perform additional on-site procedures at UMBC's subawardees to satisfy ourselves that the subawardee costs charged to the NSF grant were allowable. We questioned \$1,634 of indirect costs claimed under NSF award number HRD-0000295 because one of the subawardees did not use the latest effective indirect cost rate to calculate the indirect costs it claimed to UMBC.
- UMBC did not have adequate procedures to monitor the cost sharing expenditures claimed by its subawardees. Although UMBC's subaward agreements require its subawardees to document their cost sharing, UMBC never enforced this requirement and never requested cost sharing data or cost sharing supporting documentation from its subawardees. UMBC claimed subawardee cost sharing for approximately \$2.4 million (44% of the total cost share it claimed) in expenditures for NSF award number HRD-0000295 based solely on the cost sharing budgets of its subawardees. Because it did not monitor the cost sharing expenditures claimed by its subawardees, UMBC could not confirm the validity of the subawardee cost sharing it claimed to NSF. As a result of UMBC's lack of subawardee cost share procedures, we were required to conduct on-site audit procedures at UMBC's subawardee locations to affirm that the cost sharing claimed by UMBC to NSF was allowable and allocable. We did not question any cost sharing.
- Despite having cost accounting controls in place, UMBC did not always follow these controls to ensure that the costs it charged to its NSF awards were accurate, allowable and allocable. In particular, UMBC's cost accounting controls included the establishment of a revolving account string to provide separate accounts to capture costs incurred for each NSF award; the performance of monthly analysis of award expenditures to ensure that costs claimed to a particular NSF award were reasonable and allowable; and, a PeopleSoft time certification and personnel activity reporting system to capture time effort reporting. UMBC failed to consistently use and follow these controls, either due to error, personnel changes, or a lack of familiarity with the PeopleSoft system. The inconsistent use of cost controls resulted in inaccurate labor, fringe, and participant support costs being charged to NSF award numbers EHR-0514220 and HRD-0000295 in the amount of \$41,511. Likewise, the inconsistent use of cost controls also resulted in \$316,692 of errors in the amount of labor, fringe, participant support and indirect costs UMBC charged to its NSF awards. Of this amount,

UMBC overcharged NSF \$287,738 for such costs, while also undercharging NSF \$28,954 of costs. The \$316,692 of errors was corrected by UMBC on its March 31, 2006 FCTR. The \$41,511 of inaccurately charged costs and \$5,798 of associated indirect costs had not been corrected by UMBC as of March 31, 2006, the end date of this audit. As such, we questioned a total of \$47,309.

- UMBC did not have adequate procedures in place to detect errors in the amount of indirect costs it claimed to NSF in a timely manner. UMBC relied on its accounting system to automatically calculate and record the amount of indirect costs it charged to its NSF awards. Although the University has procedures which requires its business managers and principle investigators to conduct monthly expenditure reviews and analyses to ensure that costs claimed to NSF awards are allowable and allocable, these procedures do not include ensuring that indirect costs charged to the NSF awards are accurate. As a result, UMBC overstated its indirect costs to NSF in the amount of \$125,584 for NSF award number EHR-0514420 and \$5,926 for NSF award number IIS-0121579 for a total overcharge of \$131,500 of indirect costs, which is 1.4 % of the total \$9.3 million claimed on all three awards under audit.

UMBC's failure to address these compliance and internal control deficiencies could result in similar problems on other current NSF awards as well as on future awards that NSF grants to UMBC.

To address these compliance and internal control deficiencies, we recommend that the Director of NSF's Division of Institutional and Award Support (DIAS) direct UMBC to (1) develop a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities, appropriately staff its OSP and OCGA departments, and adhere to its subaward monitoring policies and procedures; (2) develop and implement written policies and procedures to obtain and review cost sharing data and related supporting documentation from its subawardees on a regular basis; (3) develop and implement written policies and procedures to perform periodic reviews of individual departments and divisions for compliance with and proper implementation of established cost control processes in a timely manner; and provide necessary assistance and training to individual departments or divisions which have difficulties in following the established controls and, (4) develop and implement adequate procedures to review indirect costs charged to NSF awards for allowability and allocability, including procedures for recalculation of indirect costs to ensure that the amount charged to each NSF award is accurate and allowable.

The awardee responded to the draft report on September 20, 2007. In its response, the awardee stated that it concurred with the findings that it lacked adequate fiscal monitoring of subawardees, that it lacked adequate procedures over subawardee cost sharing claimed to NSF awards, that the cost accounting controls in place were not used and followed effectively, and that there were inadequate procedures to detect errors in indirect costs in a timely manner. The awardee indicated that it was in the process of (1) developing a comprehensive subawardee fiscal monitoring plan, (2) developing and implementing written policies and procedures to obtain and review cost sharing data and related supporting documentation from subawardees, (3) developing and providing training to departments for grant reconciliation, including procedures to review and recalculate indirect costs, and (4) reorganizing its Office of Sponsored Programs and Office of Contract and Grant accounting.

The findings in this report should not be closed until NSF has determined that all the recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented. UMBC's response has been included in its entirety in Appendix A.

For a complete discussion of audit findings, refer to the Independent Auditors' Report on Compliance and Other Matters and on Internal Control Over Financial Reporting.

EXIT CONFERENCE

We conducted an exit conference on February 22, 2007 via phone. We discussed preliminary findings and recommendations noted during the audit. Representing UMBC were:

Name	Title
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
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[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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

Name	Title
[REDACTED]	[REDACTED]
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COMPLIANCE AND INTERNAL CONTROLS



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**INDEPENDENT AUDITORS' REPORT ON COMPLIANCE AND OTHER MATTERS
AND ON INTERNAL CONTROL OVER FINANCIAL REPORTING
BASED ON AN AUDIT PERFORMED IN ACCORDANCE WITH
GOVERNMENT AUDITING STANDARDS**

We have audited costs claimed as presented in the Schedules of Award Costs (Schedules A-1 through A-3), which summarize financial reports submitted by the University of Maryland, Baltimore County (UMBC) to the National Science Foundation (NSF) and claimed cost sharing for the awards and periods listed below and have issued our report thereon dated August 4, 2006.

Award Number	Award Period	Audit Period
EHR - 0514420	01/01/05 - 12/31/08	01/01/05 - 03/31/06
HRD - 0000295	11/01/00 - 10/31/06	11/01/00 - 03/31/06
IIS - 0121570	09/15/01 - 08/31/06	09/15/01 - 03/31/06

We conducted our audit of the Schedules of Award Costs as presented in Schedules A-1 through A-3 in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States (2003 revision), and the *National Science Foundation Audit Guide* (September 1996), as applicable. These standards and the *National Science Foundation Audit Guide* require that we plan and perform the audit to obtain reasonable assurance that the financial schedules are free of material misstatement.

COMPLIANCE WITH LAWS AND REGULATIONS AND OTHER MATTERS

Compliance with applicable federal laws, regulations, and NSF award terms and conditions is the responsibility of UMBC's management. As part of obtaining reasonable assurance about whether UMBC's financial schedules are free of material misstatement, we performed tests of UMBC's compliance with certain provisions of applicable laws, regulations, and NSF award terms and conditions, noncompliance with which could have a direct and material effect on the determination of financial schedule amounts. However, providing an opinion on compliance with those provisions is not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests of compliance disclosed instances of noncompliance that are required to be reported under *Government Auditing Standards* and the *National Science Foundation Audit Guide* and are described in Finding Nos. 1 and 2 below.

INTERNAL CONTROL OVER FINANCIAL REPORTING

UMBC management is responsible for establishing and maintaining internal control. In fulfilling this responsibility, estimates and judgments made by management are required to assess expected benefits and related costs of internal control policies and procedures. The objectives of internal control are to provide management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of financial schedules in accordance with accounting principles prescribed by NSF. Because of inherent limitations in any internal control, misstatements due to errors or fraud may nevertheless occur and not be detected. Also, projection of any evaluation of internal control to future periods is subject to the risk that procedures may become inadequate because of changes in conditions, or that the effectiveness of the design and operation of policies and procedures may deteriorate.

In planning and performing our audit of the Schedules of Award Costs (Schedules A-1 through A-3) for the period November 1, 2000 to March 31, 2006, we considered UMBC's internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinion on the financial schedules and not to provide an opinion on the internal control over financial reporting. Accordingly, we do not express such an opinion.

We noted, however, certain matters described below involving the internal control over financial reporting and its operation that we consider to be reportable conditions under standards established by the American Institute of Certified Public Accountants. Reportable conditions involve 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 UMBC's ability to record, process, summarize, and report financial data consistent with management's assertions in the financial schedules. Reportable conditions we identified are described in Finding Nos. 1 through 4, below.

A material weakness is a reportable condition in which the design or operation of one or more of the internal control elements does not reduce, to a relatively low level, the risk that misstatements caused by error or fraud in amounts that would be material in relation to the financial schedules being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. Our consideration of internal control over financial reporting would not necessarily disclose all matters related to internal control over financial reporting that might be reportable conditions and, accordingly, would not necessarily disclose all reportable conditions that are also considered to be material weaknesses. We consider the reportable condition described in Finding No. 3 to be a material weakness.

FINDINGS AND RECOMMENDATIONS

Finding 1. Lack of Adequate Fiscal Monitoring of Subawardees

UMBC did not always monitor, in accordance with its established procedures, the subaward costs it charged to its NSF awards. Except for the subawardee under NSF award number EHR-0514420, all four of the subawardees under award numbers HRD-0000295 and IIS-0121570 did not submit any form of documentation to support the costs claimed on the invoices they submitted to UMBC for reimbursement. Additionally, UMBC did not perform any periodic fiscal monitoring of its subawardees to ensure that the expenditures incurred and claimed by its subawardees were accurate, valid, allowable and adequately documented. The two subawardees under NSF award number HRD-000295 claimed approximately \$2.65 million or 39% of the total costs charged to the award. The other two subawardees under NSF award number IIS-0121570 claimed approximately \$219,000 or 39% of the total costs charged to the award.

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

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."

UMBC requires its subawardees to submit invoices for reimbursement of expenses incurred for NSF grants. These invoices are reviewed for budgetary compliance and are then approved by the Principal Investigator or his/her designee for the particular NSF award. These invoices are then processed through UMBC's accounting system as a vendor payment. Throughout this process, UMBC has no procedures in place to ensure that the amounts claimed by its subawardees on their invoices are accurate, allocable, allowable and sufficiently supported in accordance with NSF and OMB Circular requirements. Thus, UMBC does not perform periodic fiscal monitoring of its subawardees.

As a result of this internal control deficiency, we were required to perform additional on-site procedures at two of UMBC's subawardees to satisfy ourselves that the subawardee costs charged by UMBC to its NSF grants were accurate, allowable and allocable. As a result of our additional on-site procedures, we questioned \$1,634 of indirect costs claimed under NSF award number HRD-0000295 because one subawardee did not use the latest effective indirect cost rate to calculate the indirect costs it claimed to UMBC. Although we did not find any major issues during our on-site work, this fact does not obviate UMBC's responsibility to fiscally monitor its subawardees.

UMBC personnel indicated that since three of its subawardees were universities within the same Maryland university system, it relied on the OMB Circular A-133 Single Audit of the university system to ensure that the costs claimed by its NSF grant subawardees were accurate, valid, allowable and adequately documented. However, because of the large dollar thresholds on A-133 Single Audits required for testing of a federal program, and the fact that

UMBC's NSF grant subaward recipients would not meet that threshold, the likelihood of the NSF funds being tested under the A-133 was slight. Thus, UMBC's reliance on the A-133 Single Audit Report to fiscally monitor its NSF grant subawardees did not constitute adequate fiscal monitoring of its subawardees.

UMBC's subawardee fiscal monitoring was also inadequate because the University's policies and procedures regarding subawardee fiscal monitoring were not well established. Likewise, responsibilities for subawardee fiscal monitoring were not clearly delineated among UMBC's responsible offices. According to UMBC's written policies and procedures, responsibilities for subawardee fiscal monitoring are shared among the Office of Sponsored Programs (OSP), the Principal Investigator (PI) or his/her designee of the award, and the Office of Contract and Grant Accounting (OCGA).

The OSP is responsible for conducting site visits at subawardee locations. These site visits may include a review of compliance with financial and program records. The OCGA is responsible for evaluating audit findings for completeness and for compliance with applicable laws and regulations, for issuing appropriate management directions to the subawardees, and, if necessary, for conducting reviews and assessments of subawardee cost documentation, such as payroll registers and indirect cost rates subawardees charge to UMBC programs. The PI or his/her designee of the award is responsible for reviewing and approving invoices received from their subawardees to ensure that costs claimed are allocable, allowable and reasonable.

Nonetheless, UMBC did not develop a comprehensive subawardee monitoring plan that included specific procedures and timeframes with designations as to how often, which procedures, and by whom such comprehensive subawardee fiscal monitoring should be conducted. Based on our interview with UMBC personnel, it appears that the parties involved in subawardee fiscal monitoring were not clear as to each other's role in the subawardee monitoring process. Also, UMBC's written policies and procedures did not specify how each office at UMBC should collaborate with the other to effectively monitor UMBC's subawardees. Additionally, UMBC personnel advised us that staffing levels within the OSP and OCGA had not grown incrementally to cope with the increasing volume of federal contract and grant awards issued to UMBC. UMBC has also experienced significant changes in personnel in the OSP.

UMBC's lack of subawardee fiscal monitoring could lead to NSF funds being used for purposes other than those intended under UMBC's NSF awards. Thus, lack of adequate subawardee fiscal monitoring increases the risk that some of the subawardee costs claimed by UMBC may be unallowable, unreasonable or not allocable to the NSF awards.

Recommendation 1:

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) ensure that UMBC develop a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities. In addition, UMBC should appropriately staff its OSP and OCGA departments and adhere to its subaward monitoring policies and procedures.

Awardee's Comments

UMBC concurs with the finding and is in the process of developing a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities. Specifically, UMBC's Office of Sponsored Programs (OSP) has implemented new procedures for processing subaward invoices and verifying subaward cost sharing commitments. OSP has also changed the language of the subawards to better address compliance requirements, developed a new subrecipient commitment form and developed a database to assist in the reporting and monitoring of subawards. Subawardee invoices are now directed to OSP for review against the subaward agreement terms, including the approved budget and indirect cost rate, prior to approval by the Principal Investigator for payment. Additionally, subaward agreement language has been improved to require adequate information to be included in the subaward invoices. Fiscal monitoring or desk audits of subawardees will be handled using a risk based approach and will be designed so as not to duplicate the efforts of the subawardee's A-133 audit.

OSP has increased its staff size from three to nine positions. The staff has been organized into teams to better serve the needs of the individual colleges and centers within UMBC and provide a solid knowledge base of several major funding agencies and their relevant policies and procedures. Additionally, one position is primarily dedicated to subrecipient monitoring. The Office of Contract and Grant Accounting has also reorganized its staff to provide more focused attention on the individual needs of UMBC's colleges and centers, as well as a compliance review function.

Auditor's Response

UMBC's comments are responsive to the recommendation and indicate that it is currently in the process of developing the procedures as recommended. In some cases, UMBC indicated that the procedures have already been implemented. However, this report finding should not be closed until NSF determines that the proposed corrective actions have been satisfactorily implemented.

Finding 2. Lack of Adequate Procedures over Subawardee Cost Sharing Claimed to NSF Awards

UMBC did not have adequate policies and procedures to monitor the cost sharing expenditures claimed by its subawardees. Although UMBC's subaward agreements require its subawardees to document their cost sharing, UMBC never enforced this requirement and never requested cost sharing data or cost sharing supporting documentation from its subawardees.

NSF's Grant Policy Manual (GPM) Section 333.6, *Cost Sharing Records and Reports* and OMB Circular A-110, Subpart C, Section 23, require grantees to maintain records of all costs claimed as cost sharing, and states that those records are subject to audit. These regulations also state that cost-sharing expenses must be verifiable from the recipient's records, not be included as contributions to any other federal award, or funded by any other federal award. Circular A-110, Section 23, also states that to be accepted as part of the recipient's cost sharing, the expenditures must be necessary and reasonable for proper and efficient accomplishment of project or program objectives and allowable under the applicable cost principles.

Although UMBC maintains adequate documentation for its own cost sharing expenditures, it did not maintain and review adequate documentation to support cost sharing expenditures it claimed for its subawardees for NSF award number HRD-0000295. This occurred even though UMBC's subawardee agreements required its subawardees to maintain and submit supporting documentation for costs claimed as cost share on NSF grants. Instead, according to our interviews with UMBC personnel, UMBC claimed subawardee cost sharing for approximately \$2.4 million (44% of total cost share claimed by UMBC) in expenditures for NSF award number HRD-0000295 based solely on the cost sharing budgets of its subawardees. Moreover, the subawardee's did not submit to UMBC their certifications of cost sharing expenditures or their schedules of cost share by cost categories until February 2006, which was after UMBC had already submitted its cost share certification to NSF for award number HRD-0000295.

Because UMBC did not monitor cost sharing expenditures claimed by its subawardees, we were required to perform on-site audit procedures at both subawardee locations to affirm that cost sharing claimed was allowable, allocable and sufficiently supported. Although we were able to satisfy ourselves that the cost sharing UMBC reported to NSF for award number HRD-0000295 was verifiable, UMBC nonetheless still has responsibility to monitor the cost share amounts claimed by its NSF grant subawardees pursuant to its grant agreement with NSF.

According to UMBC personnel, it overlooked the cost sharing requirements that it had in its subaward agreements with its subawardees. However, we also reviewed UMBC's written procedures regarding the monitoring of subawardee cost sharing and noted that these procedures did not include requirements for specific UMBC personnel to obtain and review supporting documentation of cost sharing expenditures from UMBC's subawardees.

As a result of its lack of adequate procedures related to the monitoring of subawardee cost sharing claimed on NSF awards, UMBC is at risk of certifying cost sharing expenditures for its NSF awards that may either not exist or may not be allowable per federal and NSF regulations.

Recommendation 2:

We recommend that NSF's Director of DIAS ensure that UMBC develops and implement written policies and procedures to obtain and review cost sharing data and related supporting documentation from its subawardee on a regular basis. These reviews should be of sufficient scope and quality to allow UMBC to provide reasonable assurance that all costs claimed by subawardees are accurate, allowable, and sufficiently supported per NSF regulations and OMB Circulars.

Awardee's Comments

UMBC concurs with the finding and is in the process of developing and implementing written policies and procedures to obtain and review cost sharing data and related supporting documentation from subawardees on a regular basis. UMBC's Office of Sponsored Program (OSP) has improved its subaward cost share verification procedures, including requiring all subawardee cost sharing to be documented on incoming invoices with a breakdown by expense category and acknowledgement of the subawardee funding source. As previously stated, OSP staff has also been increased and now includes a position primarily dedicated to subrecipient monitoring. The subaward manager has developed a database of subawards with reporting

mechanisms to assist in the organizing and monitoring of subawards, including cost sharing requirements and other compliance regulations. Additionally, an annual cost share certification is required from an authorized organization official at the subaward institution. As part of UMBC's comprehensive subawardee fiscal monitoring plan, fiscal monitoring or desk audits of subawardees will be handled using a risk based approach and will be designed so as not to duplicate the efforts of the subawardee's A-133 audit.

Auditor's Response

UMBC's comments are responsive to the recommendation and indicate that it is currently in the process of developing the procedures as recommended. This report finding should not be closed until NSF determines that the proposed corrective actions have been satisfactorily implemented.

Finding 3. Cost Accounting Controls in Place Not Used and Followed Effectively

UMBC personnel did not always follow established cost controls that were put in place to ensure that the costs charged to NSF awards were accurate, allowable and allocable. The inconsistent use of cost controls resulted in inaccurate labor, fringe, and all other types of costs being charged to NSF award numbers EHR-0514220 and HRD-0000295 in the amount of \$41,511.

Likewise, the inconsistent use of cost controls also resulted in \$316,692 of errors in the amount of labor, fringe, participant support and indirect costs UMBC charged to its NSF awards. Of this amount, UMBC overcharged NSF \$287,738 for such costs, while also undercharging NSF \$28,954 of costs. The \$316,692 of errors was corrected by UMBC on its March 31, 2006 FCTR. The \$41,511 of inaccurately charged costs, and \$5,798 of associated indirect costs had not been corrected by UMBC as of March 31, 2006, the end date of this audit. As such, we questioned a total of \$47,309.

OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institution of Higher Education, Hospitals, and Other Non-Profit Organizations, Section 21, Sub-Section B, states that a "recipients' financial management system shall provide for accurate, current and complete disclosure of the financial results of each federally-sponsored project" ... and shall maintain "effective control over and accountability of all funds property and other assets."

UMBC's cost accounting controls included the establishment of a revolving account string to provide separate accounts to capture costs incurred for each NSF award; the performance of monthly analysis of award expenditures to ensure that costs claimed to a particular NSF award were reasonable and allowable; and, a PeopleSoft time certification and personnel activity reporting system to capture time effort reporting. UMBC failed to consistently use and follow these controls, either due to error, personnel changes, or a lack of familiarity with the PeopleSoft system. The following is a description of the cost control deficiencies we noted during our audit. We have grouped these deficiencies by award.

NSF Award Number EHR-0514420 (STEM Grant)

A. Revolving Account Not Established Timely to Separately Record Non-Reimbursable Costs

UMBC's cost controls include the requirement that the accounting department establish a "revolving account string" (e.g., a specific sequence of numbers identifying separate accounts for each NSF grant) in UMBC's accounting system to record non-reimbursable costs on federal awards. The purpose of the revolving account is to ensure that unallowable costs are not claimed to NSF as an award expense and that such unallowable costs are not reported on the FCTRs that UMBC files with NSF.

In January 2005, the initial STEM grant Principal Investigator was not successful in obtaining a funding commitment from UMBC's accounting office at the beginning of the grant period, and as a result, a revolving account string was not established for the beginning months of this grant. The establishment of this account was further delayed because the responsibilities of administering the STEM grant were transferred from one department to another department in July 2005. The grant was originally managed by the Mechanical Engineering Department and the Division of Professional Education and Training. Ultimately, STEM project was set up as its own department under the College of Engineering and Information Technology. From July 2005 through September 2005, a new Business Manager was not assigned to the grant. In October 2005, a new permanent Business Manager was hired, but soon thereafter left on maternity leave.

Since the revolving account was not established at the beginning of the grant, all costs associated with the project, both allowable and unallowable, were charged to the NSF award and were claimed as costs by UMBC on the FCTRs it filed with NSF. In February 2006, the Business Manager returned from maternity leave and the appropriate account to capture unallowable grant costs was established in UMBC's accounting system. A total of \$85,921 of unallowable costs (from all cost categories) that had been charged to NSF award number EHR-0514420 in UMBC's accounting system were removed as charged from the NSF grant and recorded to the newly established revolving account. UMBC also removed these previously claimed unallowable costs by reducing its allowable costs on its March 31, 2006 FCTR by \$85,921. Nonetheless, the timely establishment of an account string would prevent UMBC from charging unallowable costs to its NSF awards.

B. Monthly Review of Expenditures Not Performed Timely

Although the STEM grant commenced on January 1, 2005, a monthly review of expenditures claimed on the grant was not performed until February 2006. This occurred because, as indicated above, the award administration was in transition for several months and there was a time lag in the establishment of a permanent Business Manager to oversee the grant. Once the permanent Business Manager returned from maternity leave, a review of expenditures claimed on the grant was performed. Errors were found on the December 31, 2005 FCTR. Adjustments to the FCTR were made on the March 31, 2006 FCTR.

Specifically, labor costs of \$26,500 for contractual faculty members that had already been paid by UMBC's tuition funds were also claimed by UMBC on its NSF STEM grant. Thus, NSF grant costs were overstated by \$26,500 on UMBC's December 31, 2005 FCTR. This error was

corrected in UMBC's accounting system on February 23, 2006 through a journal entry. UMBC removed these erroneously claimed costs by reducing its allowable costs on its March 31, 2006 FCTR by \$26,500. A timely review of STEM award costs would have detected this error and prevented the unallowable costs from being claimed to NSF.

C. Inaccurate Labor Costs Claimed Due to Inefficient Use of The Time Effort Allocation Process

UMBC utilizes the time reporting functions of its PeopleSoft system to appropriately allocate labor costs to its NSF awards. To utilize this system efficiently, certain forms must be accurately completed to document and certify an employee's level of labor effort for a specific NSF grant. System documents also require information related to the time period and the funding source(s) for the particular level of labor effort.

For example, a Human Resource (HR) form is used as a "front-end" control to establish the level of labor effort of an employee for a specific award(s) or funding source(s). Within 60 days after the end of each semester, each employee is required to certify the level of time efforts he/she contributed to the NSF award(s) during the semester and whether or not the amount of labor effort agrees to what was established on the HR form. If the certification of labor agrees with the information established on the HR form, no corrections or adjustments are necessary and the payroll system defaults to the labor cost allocation established on the HR form. If an employee's level of time efforts deviates from what was established on the HR form, a Department Budget Earning (DBE) Labor Distribution form is completed to make the necessary changes to the labor allocation costs to be charged to the NSF award(s). A Retro Payroll Transfer (RPT) form is used to correct erroneously charged labor cost distributions that were not captured by the DBE form.

Because UMBC did not efficiently utilize the required labor effort reporting forms, several errors were made when claiming labor costs to NSF on its FCTR. These errors resulted in the understatement of labor costs as discussed below.

- Spring 2005 semester labor costs were understated by \$650 for the PI. We noted that the PI's labor costs were first incorrectly charged to the Mechanical Engineering Department to which the STEM grant was awarded, instead of specifically to the STEM grant. A correction was made by using the PeopleSoft RPT form to charge labor costs to the STEM grant. However, the incorrect time period for the labor costs was made on this form and the first pay period of the semester was erroneously omitted from the labor costs UMBC claimed on its FCTR. The error was subsequently corrected and reflected on the March 31, 2006 FCTR.
- Labor costs were understated by \$14,300 for the STEM grant PI because the DBE Labor Distribution Form was completed with incorrect information. Thus, the PI's labor costs were not charged to the STEM grant for a certain time period. We noted that the form erroneously specified time efforts distribution of the PI's labor effort to the STEM grant through May 2005 only, rather than to the end date of the grant. The error was subsequently corrected and reflected on the March 31, 2006 FCTR.
- Labor costs were understated for the STEM PI by \$14,004 because the HR form was prepared in error, which resulted in the PI's labor costs being incorrectly charged to

another NSF grant, the Science and Technology grant. The error was subsequently corrected and reflected on the March 31, 2006 FCTR.

Based on our interview with STEM grant personnel, the above errors occurred due to inadequate familiarity with the PeopleSoft time reporting and labor distribution process.

D. Labor Distribution Adjustment Not Timely Reflected on FCTR

We found that labor costs charged to the STEM grant were overstated by \$10,541 on the March 31, 2006 FCTR because certifications and adjustments to UMBC's labor distribution for the Fall 2005 semester happened after the FCTR had been prepared and submitted to NSF. Adjustments were made after March 31, 2006 to reduce the level of labor effort of a faculty member charged to the STEM grant for the period covered by the March 31, 2006 FCTR. UMBC stated that the discrepancy will be reflected on the next FCTR. Overstated labor, fringe benefits and associated indirect costs on the March 31, 2006 FCTR were as follows:

<u>Cost Category</u>	<u>Costs Questioned On March 31, 2006 FCTR</u>
Salaries and Wages	\$ 8,861
Fringe Benefits	1,680
Sub-total	10,541
Associated Indirect Costs	5,798
Total	<u>\$ 16,339</u>

Because UMBC personnel did not complete the appropriate adjustments to the labor effort reporting system in a timely manner, the labor costs UMBC claimed on its March 31, 2006 FCTRs did not accurately reflect the actual labor effort incurred for the grant. We questioned the \$16,339 of salary and wages, fringe benefits and associated indirect costs.

NSF Award Number HRD-0000295 (LSAMP Grant)

Untimely Establishment of Appropriate Accounts Causes Unrelated Costs to Be Charged to NSF Award

Costs claimed on the FCTR for the LSAMP grant were overstated because costs related to another NSF award were recorded and charged to the LSAMP award. \$175,317 of salaries and wages, fringe benefits and scholarship costs incurred under the new LSAMP phase III grant were recorded to the older LSAMP phase II grant because a separate account string for the new phase III grant expenditures had not been established in a timely manner. The Business Manager first recorded these costs under the LSAMP phase II grant and then later removed these costs to the phase III grant through journal entries once the phase III grant accounts were established. We noted that the Business Manager maintained separate records and documentation for expenditures incurred for the new LSAMP phase III grant, and thus was able to properly remove these costs from the old LSAMP grant. The adjustments reducing \$175,317 of costs claimed to the incorrect NSF grant were reflected on the March 31, 2006 FCTR. We did not question these costs.

Similarly, we found that costs claimed on the FCTR for NSF award number HRD-0000295 were overstated by \$30,970 because participant support costs related to another NSF award were recorded and charged to this award. UMBC did not establish accounts to record costs for this newly awarded NSF grant in a timely manner. As a result, UMBC personnel charged the participant support costs of this newly awarded NSF grant to NSF award number HRD-0000295. UMBC stated that the adjustments would be reflected on the next FCTR it would file with NSF. Because the period of time for this FCTR was after the period of our audit, we could not confirm whether UMBC made this correction and thus, we questioned the \$30,970.

UMBC personnel indicated that it appeared that the delay in establishing the appropriate accounts for the new LSAMP phase III grant resulted from confusion between two UMBC departments, the Office of Sponsored Programs (OSP) and the Office of Contract and Grant Accounting (OCGA). The OCGA is responsible for setting up the information in UMBC's accounting system and the OSP is responsible for providing OCGA with the necessary award information, i.e., award budget and cost sharing data. Based on a review of the email correspondence between OSP and OCGA, we found there were concerns as to the completeness and accuracy of the award information needed to establish the appropriate accounts. These concerns caused a delay in establishing the account strings.

Overall, although UMBC had processes in place to provide cost controls, i.e., account strings for recording allowable and unallowable costs on awards; processes to review charges made to award accounts; and processes to ensure correct labor charges were recorded, these processes were not adequately documented in writing. Similarly, cost controls existed to conduct periodic reviews; however, these reviews were not performed to ensure that the processes in place were followed.

Recommendation 3:

We recommend that NSF's Director of DIAS ensure that UMBC develop and implement written policies and procedures to perform periodic reviews of individual departments and divisions for compliance with and proper implementation of established cost controls in a timely manner. Necessary assistance and training should be provided to individual departments or divisions which have difficulties in following the established control processes.

Awardee's Comments

UMBC concurs with the finding and is in the process of reorganizing both its Office of Sponsored Programs (OSP) and Office of Contract and Grant Accounting (OCGA) to better serve the needs of its individual colleges and centers. UMBC also indicates that both OSP and OCGA are implementing and documenting procedures focused on compliance reviews and campus outreach. Training programs are also being developed for the campus community to provide departments with the necessary tools to properly manage their awards.

Auditor's Response

UMBC's comments are responsive to the finding and recommendation. This report finding should not be closed until NSF determines that the proposed corrective actions have been satisfactorily implemented.

Finding 4. Inadequate Procedures to Detect Errors in Indirect Costs in a Timely Manner

UMBC did not have adequate procedures in place to detect errors in the amount of indirect costs it claimed to its NSF grants in a timely manner. Because UMBC relied on its accounting system to automatically calculate and record the amount of indirect costs it charged to its NSF awards, UMBC overcharged its NSF grants in the amount of \$131,510 for erroneously charged indirect cost rates, which is 1.4% of the total \$9.3 million claimed on all three awards under audit.

OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institution of Higher Education, Hospitals, and Other Non-Profit Organizations, Section 21, Sub-Section B, states that a "recipients' financial management system shall provide for accurate, current and complete disclosure of the financial results of each federally-sponsored project" and shall maintain "effective control over and accountability of all funds property and other assets..."

Although the University has procedures which requires its business managers and principle investigators to conduct monthly expenditure reviews and analyses to ensure that costs claimed to NSF awards are allowable and allocable, these procedures do not include ensuring that indirect costs charged to the NSF awards are accurate. Instead, the business managers and principle investigators relied on UMBC's accounting system to calculate the amount of indirect costs that should be charged to NSF awards.

UMBC's PeopleSoft accounting system is set up to automatically apply an indirect cost rate to a direct cost item when that item is recorded in the accounting system. This system-calculated indirect cost amount is then automatically charged to UMBC's NSF award. However, UMBC's accounting system does not automatically remove an indirect cost if the direct cost item to which that indirect cost was calculated from is later removed as a charge from the NSF award.

For NSF award number EHR-0514220, UMBC overcharged \$125,584 of indirect costs because the system did not reverse the indirect costs associated with certain direct costs that were erroneously charged, and later removed, from the NSF award by UMBC's accounting personnel through a correcting journal entry. However, the correcting entry did not include the removal of the associated indirect costs. UMBC management has agreed that there was an overcharge of \$125,584 of indirect costs to NSF and stated that subsequent drawdowns were not processed on the award until adjustments were made.

Similarly, we found that indirect costs were overcharged by \$5,926 for NSF award number IIS-0121570 because certain subawardee expenses were incorrectly entered in UMBC's accounting system as supplies. UMBC's PeopleSoft system automatically charged indirect costs related to these miscoded subawardee expenses. However, NSF Award number IIS-0121570 allows for indirect costs for supplies but does not allow indirect costs for subawardees. UMBC acknowledged this error and indicated that the error had been corrected through adjustment to a subsequent drawdown.

Without an adequate review of indirect costs claimed, UMBC is at risk of claiming additional unallowable indirect costs to NSF in the future.

Recommendation 4:

We recommend that NSF's Director of DIAS ensure that UMBC develops and implements adequate procedures to review indirect costs charged to NSF awards for allowability and allocability. These procedures should also include a recalculation of indirect costs to ensure that the amount charged to each NSF award is accurate and allowable.

Awardee's Comments

UMBC concurs with the finding and is in the process of developing and providing training to departments for grant reconciliation which includes procedures to review and recalculate indirect costs charged to awards for accuracy, allowability and allocability. UMBC also indicates that its system currently recalculates indirect costs when the associated direct costs are removed.

Auditor's Response

UMBC's comments are responsive to the finding and recommendation. This report finding should not be closed until NSF determines that the proposed corrective actions have been satisfactorily implemented.

We considered these internal control deficiencies in forming our opinion of whether Schedules A-1 through A-3 are presented fairly in all material respects, in conformity with National Science Foundation policies and procedures, and determined that this report does not affect our report dated August 4, 2006 on the financial schedules.

This report is intended solely for the information and use of UMBC's management, the National Science Foundation, UMBC's Federal Cognizant Agency, the Office of Management and Budget, and the Congress of the United States of America and is not intended to be and should not be used by anyone other than those specified parties.

Mayer Hoffman McCann P.C.

Mayer Hoffman McCann P.C.
Irvine, California
August 4, 2006

**FINANCIAL SCHEDULES AND
SUPPLEMENTAL INFORMATION**



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INDEPENDENT AUDITORS' REPORT ON FINANCIAL SCHEDULES

We have audited the costs claimed by University of Maryland, Baltimore County (UMBC) to the National Science Foundation (NSF) on the Federal Cash Transactions Reports (FCTRs) for the NSF awards listed below. In addition, we audited the amount of cost sharing claimed on Award No. HRD-0000295. The FCTRs, as presented in the Schedules of Award Costs (Schedules A-1 through A-3), are the responsibility of UMBC's management. Our responsibility is to express an opinion on the Schedules of Award Costs (Schedules A-1 through A-3) based on our audit.

Award Number	Award Period	Audit Period
EHR - 0514420	01/01/05 - 12/31/08	01/01/05 - 03/31/06
HRD - 0000295	11/01/00 - 10/31/06	11/01/00 - 03/31/06
IIS - 0121570	09/15/01 - 08/31/06	09/15/01 - 03/31/06

We conducted our audit in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States of America (2003 revision), and the *National Science Foundation Audit Guide* (September 1996). These standards and the *National Science Foundation Audit Guide*, require that we plan and perform the audit to obtain reasonable assurance that the amounts claimed to NSF as presented in the Schedules of Award Costs (Schedules A-1 through A-3) are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Schedules of Award Costs (Schedules A-1 through A-3). An audit also includes assessing the accounting principles used and the significant estimates made by UMBC, as well as evaluating the overall financial schedule presentation. We believe our audit provides a reasonable basis for our opinion.

The Schedule of Questioned Costs (Schedule B) explains the \$174,655 (1.86%) of total claimed NSF funds that we have questioned as to their allowability under the award agreements. These questioned costs include unallowable salaries and wages, fringe benefits, participant support costs, subaward costs and indirect costs.

Questioned costs are (1) costs for which documentation exists to show that recorded costs were expended in violation of laws, regulations or specific award conditions, (2) costs that require additional support by the awardee, or (3) costs that require interpretation of allowability by the National Science Foundation – Division of Institution and Award Support (DIAS). NSF will make the final determination of cost allowability. The ultimate outcome of this determination cannot presently be determined. Accordingly, no adjustment has been made to costs claimed for any potential disallowance by NSF.

In our opinion, except for the \$174,655 of questioned NSF-funded costs, the Schedules of Award Costs (Schedules A-1 through A-3) referred to above present fairly, in all material respects, the costs claimed on the FCTRs for the period November 1, 2000 to March 31, 2006 in conformity with the *National Science Foundation Audit Guide*, *NSF Grant Policy Manual*, terms and conditions of the NSF awards and on the basis of accounting described in the Notes to the Financial Schedules, which is a comprehensive basis of accounting other than generally accepted accounting principles. These schedules are not intended to be a complete presentation of financial position in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards*, and provisions of the *National Science Foundation Audit Guide*, we have also issued a report dated August 4, 2006, on our tests of UMBC's compliance with certain provisions of laws, regulations, and NSF award terms and conditions and our consideration of UMBC's internal control over financial reporting. The purpose of that report is to describe the scope of our testing over internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in considering the results of our audit.

This report is intended solely for the information and use of UMBC's management, NSF, UMBC's Federal cognizant agency, Office of Management and Budget, and the Congress of the United States of America, and is not intended to be, and should not be used by anyone other than these specified parties.

Mayer Hoffman McCann P.C.
Conrad Government Services Division

Mayer Hoffman McCann P.C.

Irvine, California
August 4, 2006

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
National Science Foundation Award Number EHR-0514420
Schedule of Award Costs
January 1, 2005 - March 31, 2006
Interim

<u>Cost Category</u>	<u>Approved Budget</u>	<u>Claimed Costs (A)</u>	<u>Questioned Costs</u>	<u>Schedule Reference</u>
Direct costs				
Salaries and wages	\$ 451,744	317,951	8,861	B, Note B-1
Fringe benefits	116,349	57,063	1,680	B, Note B-1
Travel	15,780	1,935	-	
Participant support	1,154,800	1,145,904	-	
Other direct costs:				
Material and supplies	15,383	2,674	-	
Consulting	99,500	-	-	
Subcontracts	893,958	155,583	-	
Other direct costs	<u>28,000</u>	<u>4,137</u>	<u>-</u>	
Total direct costs	2,775,514	1,685,247	10,541	
Indirect costs	<u>398,065</u>	<u>340,693</u>	<u>125,584</u>	B, Note B-1 and B-3
Total	<u>\$ 3,173,579</u>	<u>2,025,940</u>	<u>136,125</u>	
Cost sharing	<u>\$ -</u>	<u>-</u>	<u>-</u>	

(A) - The total claimed costs agrees with the total expenditures reported by UMBC on the Federal Cash Transaction Report - Federal Share of Net Disbursements as of the quarter ended March 31, 2006. Claimed costs reported above are taken from the awardee's books of accounts.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
National Science Foundation Award Number HRD-0000295
Schedule of Award Costs
November 1, 2000 - March 31, 2006
Interim

<u>Cost Category</u>	<u>Approved Budget</u>	<u>Claimed Costs (A)</u>	<u>Questioned Costs</u>	<u>Schedule Reference</u>
Direct costs:				
Salaries and wages	\$ 1,118,488	783,365	-	
Fringe benefits	307,340	156,206	-	
Travel	24,630	11,221	-	
Participant support	3,041,409	2,862,259	30,970	B, Note B-2
Other direct costs:				
Material and supplies	19,628	945	-	
Publication	10,697	-	-	
Consulting	23,500	-	-	
Subaward	3,000,000	2,649,558	1,634	B, Note B-4
Other direct costs	<u>598,848</u>	<u>33,150</u>	<u>-</u>	
Total direct costs	8,144,540	6,496,704	32,604	
Indirect costs	<u>473,084</u>	<u>284,607</u>	<u>-</u>	
Total	<u>\$ 8,617,624</u>	<u>6,781,311</u>	<u>32,604</u>	
Cost sharing	<u>\$ 5,882,672</u>	<u>5,559,109</u>	<u>-</u>	

(A) - The total claimed costs agrees with the total expenditures reported by UMBC on the Federal Cash Transaction Report - Federal Share of Net Disbursements as of the quarter ended March 31, 2006. Claimed costs reported above are taken from the awardee's books of accounts.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY
National Science Foundation Award Number IIS-0121570
Schedule of Award Costs
September 15, 2001 - March 31, 2006
Interim

<u>Cost Category</u>	<u>Approved Budget</u>	<u>Claimed Costs (A)</u>	<u>Questioned Costs</u>	<u>Schedule Reference</u>
Direct costs				
Salaries and wages	\$ 237,568	136,131	-	
Fringe benefits	87,449	7,477	-	
Equipment	12,000	-	-	
Travel	13,050	9,293	-	
Participant support	26,400	3,292	-	
Other direct costs:				
Material and supplies	3,877	62,057	-	
Subaward	533,018	219,749	-	
Other direct costs	<u>7,000</u>	<u>3,661</u>	<u>-</u>	
Total direct costs	920,362	441,660	-	
Indirect costs	<u>162,658</u>	<u>119,602</u>	<u>5,926</u>	B, Note B-3
Total	<u>\$ 1,083,020</u>	<u>561,262</u>	<u>5,926</u>	
Cost sharing	<u>\$ -</u>	<u>-</u>	<u>-</u>	

(A) - The total claimed costs agrees with the total expenditures reported by UMBC on the Federal Cash Transaction Report - Federal Share of Net Disbursements as of the quarter ended March 31, 2006. Claimed costs reported above are taken from the awardee's books of accounts.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

National Science Foundation Award Numbers
 EHR – 0514420, HRD-0000295, IIS-0121570
 Schedule of Questioned Costs
 From November 1, 2000 to March 31, 2006

Note B-1

Salaries & Wages, Fringe Benefits

UMBC did not effectively use its cost accounting controls to ensure that the costs it reported to NSF on its FCTRs were accurate because adjustments made to the University's labor cost distribution system were not timely and not reflected on the FCTR. We found that labor costs charged to the STEM grant were overstated by \$10,541 on the March 31, 2006 FCTR because certifications and adjustments to labor distribution for the Fall 2005 semester happened after the FCTR had been prepared and submitted. Adjustments were made after March 31, 2006 to reduce the level of time efforts and labor costs of a faculty member charged to the STEM grant for the period covered by the March 31, 2006 FCTR. (See Finding and Recommendation No. 3 in the *Independent Auditors' Report on Compliance and Other Matters and on Internal Control over Financial Reporting*.)

Cooperative Agreement EHR-0514420 (STEM)

<u>Cost Category</u>	<u>Labor Costs Questioned</u>
Salaries and Wages	\$ 8,861
Fringe Benefits	<u>1,680</u>
Total	\$ <u>10,541</u>

In addition, \$5,798 of indirect costs has been questioned as a result of the questioned labor costs.

\$ 10,541	Questioned labor costs
<u>55%</u>	Approved indirect cost rate
<u>\$ 5,798</u>	Questioned indirect costs

Note B-2

Participant Support Costs

Costs claimed on the FCTR for NSF award number HRD-0000295 were overstated by \$30,970 because participant support costs related to another NSF award were recorded and charged to the award. This occurred because UMBC did not establish, in a timely manner, the appropriate accounts to record costs for the newly awarded NSF grant. As a result, UMBC charged the participant support costs of this newly awarded NSF grant to NSF award number HRD-0000295.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

National Science Foundation Award Numbers
 EHR - 0514420, HRD-0000295, IIS-0121570
 Schedule of Questioned Costs
 From November 1, 2000 to March 31, 2006

(Continued)

We reviewed the detail general ledger reports of NSF award number HRD-0000295 and identified \$30,970 of tuition costs for four graduate research assistants, which were charged to the award on the March 31, 2006 FCTR but should have been claimed to the newly awarded grant. Adjustments were made after March 31, 2006 to remove these costs from the award. Therefore, we have questioned the costs claimed to NSF award number HRD-0000295 on the March 31, 2006 FCTR because these unrelated costs still remained as charged on the award. (See Finding and Recommendation No. 3 in the *Independent Auditors' Report on Compliance and Other Matters on Internal Control over Financial Reporting.*)

Note B-3

Indirect Costs

UMBC did not have adequate procedures to detect errors in indirect costs claimed to its NSF awards in a timely manner. During our review of indirect costs, we noted errors in computing costs claimed under the indirect cost category for NSF award numbers EHR-0514420 and IIS-0121570. The following table summarizes the costs we questioned for each grant.

NSF Award Number EHR-0514420 (STEM Grant)

For NSF award number EHR-0514420, erroneous direct costs were charged to the award and the PeopleSoft system automatically applied indirect costs to the transaction and charged the indirect costs to the award. The error was identified by grant personnel and a correcting entry was prepared to remove the transaction. However, the correcting entry did not include the removal of the associated indirect costs. As such, the indirect costs associated with the erroneous direct costs remained charged to the award.

\$ 340,693	Total Indirect Costs Claimed as of March 31, 2006
<u>215,109</u>	Recalculated Allowable Indirect Costs
\$ <u>125,584</u>	Total Indirect Costs Questioned*

* Amount includes \$5,798 of questioned indirect costs at Note B-1.

SCHEDULE B

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

National Science Foundation Award Numbers
EHR – 0514420, HRD-0000295, IIS-0121570
Schedule of Questioned Costs
From November 1, 2000 to March 31, 2006

(Continued)

NSF Award Number IIS-0121570 (ISS Grant)

For NSF award number IIS-0121570, certain expenses of a subawardee were incorrectly coded and claimed as supplies in the accounting system. As a result, the accounting system automatically applied and charged indirect costs related to these miscoded subawardee expenses.

\$ 119,602	Total Indirect Costs Claimed as of March 31, 2006
<u>113,676</u>	Recalculated Allowable Indirect Costs
<u>\$ 5,926</u>	Total Indirect Costs Questioned

(See Finding and Recommendation No. 4 in the *Independent Auditors' Report on Compliance and Other Matters on Internal Control over Financial Reporting.*)

Note B-4 Subaward Costs

UMBC did not monitor subawardees to ensure that costs charged to the NSF awards were accurate, allocable, allowable and sufficiently supported. As a result, UMBC over-claimed \$1,634 in subaward costs to NSF award number HRD-0000295 because one subawardee, University of Maryland, Eastern Shore (UMES), used an old indirect cost rate of 54% to determine its direct costs, instead of the latest effective indirect cost rate of 49%. UMES identified the error and made adjustment to correct it. However, the adjustment was not adequate to fully correct the error. As a result, indirect costs claimed were overstated by \$1,634. Although these costs were indirect costs to UMES, they were claimed to NSF as subaward costs on the FCTR submitted by UMBC. As a result, they have been questioned under the "Subaward" cost category. (See Finding and Recommendation No. 1 in the *Independent Auditors' Report on Compliance and Other Matters on Internal Control over Financial Reporting.*)

SCHEDULE B

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

National Science Foundation Award Numbers

EHR -- 0514420, HRD-0000295, IIS-0121570

Schedule of Questioned Costs

From November 1, 2000 to March 31, 2006

(Continued)

NSF Award Number HRD-0000295 (LSAMP Grant)

Subawardee -- University of Maryland, Eastern Shore

\$ 61,884	Total Indirect Costs Claimed as of March 31, 2006
<u>60,250</u>	Recalculated Allowable Indirect Costs

<u>\$ 1,634</u>	Total Subaward Costs Questioned
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SCHEDULE C

UNIVERSITY OF MARYLAND BALTIMORE COUNTY
 Summary Schedules of Awards Audited and Audit Results
 From November 1, 2000 to March 31, 2006

Summary of Awards Audited

<u>Award Number</u>	<u>Award Period</u>	<u>Audit Period</u>
EHR - 0514420	01/01/05 - 12/31/08	01/01/05 - 03/31/06
HRD - 0000295	11/01/00 - 10/31/06	11/01/00 - 03/31/06
IIS - 0121570	09/15/01 - 08/31/06	09/15/01 - 03/31/06

<u>Award Number</u>	<u>Type of Award</u>	<u>Award Description</u>
EHR - 0514420	Cooperative Agreement	The award replaces award EHR-0227256 and aims to facilitate the implementation, testing, refinement, and dissemination of promising practices for improving STEM student achievement as well as teacher quality/retention in selected high-needs elementary, middle, and high schools in the Baltimore County Public Schools (BCPS) system.
HRD - 0000295	Cooperative Agreement	The grant is a comprehensive program designed to increase the quantity and quality of minority students receiving baccalaureate degrees in science, mathematics, engineering, and technology (SMET).
IIS - 0121570	Grant	The goal of this project is to address the issues involved in developing effective computer systems for individuals experiencing situationally-induced impairments (SII), which exist when the physical, cognitive, or perceptual demands placed on the computer user exceed their abilities.

Summary of Questioned and Unsupported Costs by Award

<u>Award Number</u>	<u>Award Budget</u>	<u>Claimed Costs</u>	<u>Questioned Costs</u>	<u>Unsupported Costs</u>
EHR - 0514420	\$ 3,173,579	2,025,940	136,125	-
HRD - 0000295	8,617,624	6,781,311	32,604	-
IIS - 0121570	1,083,020	561,262	5,926	-
Total	\$ 12,874,223	9,368,513	174,655	-

SCHEDULE C

UNIVERSITY OF MARYLAND BALTIMORE COUNTY
 Summary Schedules of Awards Audited and Audit Results
 From November 1, 2000 to March 31, 2006

(Continued)

Summary of Questioned Cost by Explanation

<u>Category</u>	<u>Questioned Costs</u>	<u>Internal Controls</u>	<u>Non-Compliance</u>
Salaries and Wages	\$ 8,861	Yes	No
Fringe Benefits	1,680	Yes	No
Equipment	-	N/A	N/A
Travel	-	N/A	N/A
Participant Support	30,970	Yes	No
Material & Supplies	-	N/A	N/A
Publication	-	N/A	N/A
Consulting	-	N/A	N/A
Subcontractors	1,634	Yes	Yes
Other Direct Costs	-	N/A	N/A
Indirect Costs	131,510	Yes	No
Cost Sharing	-	Yes	Yes

Summary of Non-Compliance and Internal Control Findings

<u>Findings</u>	<u>Non-Compliance or Internal Control</u>	<u>Material or Reportable</u>
Subawardee Monitoring	Non-Compliance and Internal Control	Reportable
Subawardee Cost Sharing	Non-Compliance and Internal Control	Reportable
Cost Accounting Controls in Place not Used and Followed Effectively	Internal Control	Material
Indirect Costs	Internal Control	Reportable

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

Notes to Financial Schedules
From November 1, 2000 to March 31, 2006

Note 1: Summary of Significant Accounting Policies

Accounting Basis

The accompanying financial schedules have been prepared in conformity with National Science Foundation (NSF) instructions, which are based on a comprehensive basis of accounting other than generally accepted accounting principles. Schedules A-1 through A-3 have been prepared from the reports submitted to NSF. The basis of accounting utilized in preparation of these reports differs from generally accepted accounting principles. The following information summarizes these differences.

A. Equity

Under the terms of the award, all funds not expended according to the award agreement and budget at the end of the award period are to be returned to NSF. Therefore, the awardee does not maintain any equity in the award and any excess cash received from NSF over final expenditures is due back to NSF.

B. Equipment

Equipment is charged to expense in the period during which it is purchased instead of being recognized as an asset and depreciated over its useful life. As a result, the expenses reflected in the Schedules of Award Costs include the cost of equipment purchased during the period rather than a provision for depreciation.

Except for awards with nonstandard terms and conditions, title to equipment under NSF awards vests in the recipient, for use in the project or program for which it was acquired, as long as it is needed. The recipient may not encumber the property without approval of the federal awarding agency, but may use the equipment for its other federally sponsored activities, when it is no longer needed for the original project.

C. Inventory

Minor materials and supplies are charged to expense during the period of purchase. As a result, no inventory is recognized for these items in the financial schedules.

Income Taxes

UMBC is a state government entity of the state of Maryland and is exempt from income taxes.

The departure from generally accepted accounting principles allows NSF to properly monitor and track actual expenditures incurred by the Grantee. The departure does not constitute a material weakness in internal controls.

**APPENDIX - AUDITEE'S COMMENTS TO
REPORT**

September 20, 2007

[REDACTED]
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Dear Mr. Rolwes:

Thank you for the opportunity to respond to the draft audit report covering National Science Foundation (NSF) award Nos. EHR-0514420, HRD-0000295, and IIS-0121570. I have attached our comments on the factual accuracy of the report, as well as our response to the findings and recommendations, including corrective actions taken or planned.

If you have any questions or need additional information, please contact me at [REDACTED]

Sincerely,
[REDACTED]
[REDACTED]
[REDACTED]

Enclosure

cc: [REDACTED]

UMBC Response to Draft Audit Report
NSF Award Nos.
EHR-0514420, HRD-0000295 and IIS-0121570
Dated August 23, 2007

UMBC Response to Findings and Recommendations

Recommendation #1:

We recommend that NSF's Director of the Division of Institution and Award Support (DIAS) ensure that UMBC develop a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities. In addition, UMBC should appropriately staff its OSP and OCGA departments and adhere to its subaward monitoring policies and procedures.

UMBC Response #1:

We concur and are in the process of developing a comprehensive subawardee fiscal monitoring plan which includes clearly defined monitoring responsibilities. Specifically, the Office of Sponsored Programs (OSP) has implemented new procedures for processing subaward invoices and verifying subaward cost sharing commitments. OSP has also changed the language of their subawards to better address compliance requirements, developed a new subrecipient commitment form and developed a database to assist in the reporting and monitoring of subawards. Subawardee invoices are now directed to OSP for review against the subaward agreement terms, including the approved budget and indirect cost rate, prior to approval by the Principal Investigator for payment. Additionally, subaward agreement language has been improved to require adequate information to be included in the subaward invoices. Fiscal monitoring or desk audits of subawardees will be handled using a risk based approach and will be designed so as not to duplicate the efforts of the subawardee's A-133 audit.

OSP has increased its staff size from three to nine positions. The staff has been organized into teams to better serve the needs of the individual colleges and centers within UMBC and provide a solid knowledge base of several major funding agencies and their relevant policies and procedures. Additionally, one position is primarily dedicated to subrecipient monitoring. The Office of Contract and Grant Accounting (OCGA) has also reorganized its staff to provide more focused attention on the individual needs of our colleges and centers, as well as a compliance review function.

Recommendation #2:

We recommend that NSF's Director of DIAS ensure that UMBC develops and implements a written policy and procedures to obtain and review cost sharing data and related supporting documentation from its subawardee on a regular basis. These reviews should be of sufficient scope and quality to allow UMBC to provide reasonable assurance that all costs claimed by subawardees are accurate, allowable, and sufficiently supported per NSF regulations and OMB Circulars.

UMBC Response to Draft Audit Report
NSF Award Nos.
EHR-0514420, HRD-0000295 and IIS-0121570
Dated August 23, 2007

UMBC Response #2:

We concur and are in the process of developing and implementing written policies and procedures to obtain and review cost sharing data and related supporting documentation from subawardees on a regular basis. OSP has improved their subaward cost share verification procedures, including requiring all subawardee cost sharing to be documented on incoming invoices with a breakdown by expense category and acknowledgement of the subawardee funding source. As previously stated, OSP staff has been increased and now includes a position primarily dedicated to subrecipient monitoring. The subaward manager has developed a database of subawards with reporting mechanisms to assist in the organization and monitoring of subawards, including cost sharing requirements and other compliance regulations. Additionally, an annual cost share certification is required from an authorized organization official at the subaward institution. As part of our comprehensive subawardee fiscal monitoring plan, fiscal monitoring or desk audits of subawardees will be handled using a risk based approach and will be designed so as not to duplicate the efforts of the subawardee's A-133 audit.

Recommendation #3:

We recommend that NSF's Director of DIAS ensure that UMBC develop and implement written policies and procedures to perform periodic reviews of individual departments and divisions for compliance with and proper implementation of established cost controls in a timely manner. Necessary assistance and training should be provided to individual departments or divisions which have difficulties in following the established control processes.

UMBC Response #3:

We concur and are in the process of reorganizing both OSP and OCGA to better serve the needs of our individual colleges and centers. Both departments are implementing and documenting procedures focused on compliance reviews and campus outreach. Training programs are also being developed for the campus community to provide departments with the necessary tools to properly manage their awards.

Recommendation #4:

We recommend that NSF's Director of DIAS ensure that UMBC develop and implement adequate procedures to review indirect costs charged to NSF awards for allowability and allocability. These procedures should also include a recalculation of indirect costs to ensure that the amount charged to each NSF award is accurate and allowable.

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