



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

MEMORANDUM

DATE: August 19, 2009

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

Karen Tiplady, Director
Division of Grants and Agreements

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

SUBJECT: NSF OIG Audit Report No. 09-1-014,
University of Michigan

Attached is the final audit report, prepared by WithumSmith & Brown, PC, an independent public accounting firm, on the audit of NSF Award Numbers SES-0094942, SBE-0123571, PHY-0114336, and EEC-9986866 to the University of Michigan (U-M). The audit covers the period September 1, 2000 to June 30, 2007, and encompasses \$57,708,044 of direct NSF funded costs and \$16,587,727 of cost sharing claimed by U-M. U-M was chosen for an audit because of the high dollar value and number of its NSF awards, and because of the collaborative nature of many of those awards.

Overall, the auditors determined that except for \$1,604,713 of questioned NSF funded costs (approximately 3% of total claimed costs) and \$136,263 (less than 1% of cost sharing claimed) of at-risk cost sharing, the costs claimed by the U-M on its Federal Financial Reports (FFRs) appear fairly stated and are allowable, allocable and reasonable for its NSF awards. "At-risk" cost sharing is the amount of required cost sharing that has not been met at the time of the audit, but for which the awardee still has time to meet before the end of the award period.

The \$1,604,713 of questioned NSF funded costs include \$894,259 of salaries, travel, internal service charges, participant support, and other direct costs; \$[REDACTED] of associated fringe benefits, and \$[REDACTED] of associated indirect costs for lack of adequate documentation (see Finding No. 1). An additional \$55,565 of direct costs was questioned as unallowable costs charged to U-M's NSF awards due to a lack of adequate centralized monitoring controls (see Finding No. 2). Also questioned was \$130,259 of labor costs for lack of adequate labor and effort reports (see Finding No. 3).

Additionally, U-M claimed \$5,685,455 of cost sharing on NSF award PHY-0114336, while the budgeted amount was \$4,590,487. However, the auditors identified \$1,231,231 as unsupported cost share, and thus designated \$136,263 of cost share as “at-risk” for this award. For awards SBE-0123571 and EEC-9986866, the auditors’ identification of unsupported or unallowable cost share (\$44,349 and \$8,119, respectively) did not result in at-risk cost share, because the amount claimed for cost share less the unsupported or unallowed amounts, still exceeded the amount of cost share required for these awards (see Finding No. 1).

The auditors noted four compliance and internal control deficiencies in U-M’s financial management practice, three of which contributed to the questioned costs and at-risk cost share and one which increases the risks that NSF awards will not be managed efficiently and effectively. Specifically:

- U-M lacks an effective record retention system for maintaining source documentation. Thus, U-M was unable to provide documentation for \$894,259 of direct costs; \$ [REDACTED] of associated fringe benefits; and, \$ [REDACTED] of associated indirect costs charged to its NSF grants. This occurred because U-M’s policies and procedures did not clearly identify the types of documentation to be maintained and reviewed in order to comply with Federal requirements and because costs were recorded into U-M’s general ledger in a way that did not match U-M’s document storage and retrieval system coding, and thus, it was difficult to retrieve information. The auditors questioned \$1,418,889 of NSF funded costs for lack of documentation. Additionally, the auditors identified \$1,255,542 of unsupported cost share for three of the four NSF awards audited, of which two provided more cost share than required. The remaining unsupported cost share resulted in \$136,263 of at-risk cost share for award PHY-0114336.
- U-M lacks a timely and adequate centralized monitoring control process over costs it charges to its NSF awards. U-M’s centralized monitoring control is a final review process performed by the Office of Sponsored Programs (OSP) to ensure that costs charged to NSF and other federal awards are allowable and allocable. However, OSP performs its monitoring control at award closeout, which is usually years after a cost is incurred and charged to an NSF or other federal award. Due to this significant time lag and U-M’s ineffective record retention system, OSP is often unable to obtain adequate documentation to conduct an appropriate final review of costs charged to NSF and other federal awards. As a result, the auditors questioned \$55,565 of NSF funded direct costs as unallowable.
- U-M lacks procedures for monitoring and enforcing labor certification and effort reporting policies. Although U-M has policies that require its employees to certify their labor and effort reports after the fact, as required by NSF grant terms and federal requirements, U-M’s policies were not always followed by U-M personnel. This occurred because U-M did not have procedures to adequately monitor and enforce its own labor certification and effort reporting policies. As a result, the auditors questioned \$130,259 of labor costs and associated fringe benefits that U-M charged to its NSF awards. It should be noted that an additional \$199,943 of direct labor costs which would have been questioned under this finding were already questioned under Findings 1 and 2.

- U-M did not have a written job description for the Director of the FOCUS program even though the University has a policy requiring job descriptions. This is significant because of the large dollar value (approximately \$18 million of NSF funds for the FOCUS Award; \$58 million of NSF funds total for the 4 NSF awards audited in this engagement). The lack of a written job description for key NSF award personnel increases the risk that awards will not be managed efficiently and effectively because management requirements necessary to comply with key provisions of grant agreements are not formalized through the job description process. No costs were questioned in association with this finding.

To address these compliance and internal control deficiencies, the auditors recommended that your office direct U-M to (1a) develop policies that define the specific types of source documentation it will maintain for each major category of federal grant costs, consistent with federal and NSF guidance; (1b) develop policies and procedures to amend its record retention system to ensure that the documentation U-M considers necessary to support charges made to its NSF grants can be readily retrieved from its record retention system; (2) develop and implement procedures to ensure the Office of Sponsored Programs performs a comprehensive review of NSF award charges with the use of supporting documentation, on at least an annual basis instead of only at grant closeout; (3) develop and implement procedures to monitor and enforce the University's labor certification and effort reporting policies, including the development of procedures for follow-up on reports not certified properly; and (4) develop written job descriptions for key management positions relating to NSF awards.

In its response, U-M disputed the audit findings and recommendations. U-M indicated it believes 1) its policies and procedures regarding documentation are adequate, and that the documentation provided to the auditors supporting the costs claimed was adequate and that the auditors did not communicate that additional support was necessary; 2) that its internal controls over monitoring of award costs are operating effectively; 3) that its policies and procedures over labor certification are operating effectively in accordance with the Plan Confirmation method as stated in OMB Circular A-21; and 4) that the job description in the grant proposal for a key NSF award position adequately states the responsibilities of the position and was approved by NSF.

In accordance with OMB Circular A-50, please coordinate with our office during the 6-month resolution period to develop a mutually agreeable resolution of the report findings. Also, the report findings should not be closed until NSF verifies that all the recommendations have been adequately addressed and corrective actions have been satisfactorily implemented.

We are providing a copy of this memorandum to the Division Directors of the Division of Engineering Education and Centers (ENG/EEE), Division of Social and Economic Sciences (SBE/SES), Division of Human Resource Development (EHR/HRD), the Division of Physics (PHY), and the Director of the Division of Grants and Agreements (DGA). 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 Attestation Engagement

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

- Reviewed WithumSmith & Brown's approach and planning of the audit;
- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the engagement at key points;
- Coordinated periodic meetings with WithumSmith & Brown and OIG management to discuss engagement progress, findings and recommendations;
- Reviewed the audit report prepared by WithumSmith & Brown to ensure compliance with Generally Accepted Government Auditing Standards and American Institute of Certified Public Accountants standards and Office of Management and Budget Circulars; and,
- Coordinated issuance of the audit report.

WithumSmith & Brown is responsible for the attached auditor's report on the University of Michigan and the conclusions expressed in the report. We do not express any opinion on the Federal Financial Reports, internal control, or conclusions on compliance with laws and regulations.

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

Attachment

Allen L. Soyster, Division Director, Division of Engineering Education & Centers (ENG/EEE)
Harold Clarke, Division Director, Division of Social and Economic Sciences (SBE/SES)
James Wyche, Division Director, Division of Human Resource Development (EHR/HRD)
Joseph L. Dehmer, Division Director, Division of Physics (PHY)



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Corporation Certified Public Accountants and
Consultants**

**UNIVERSITY OF MICHIGAN
c/o The Regents of the University of Michigan
Ann Arbor, MI 48128**

**Independent Auditors' Reports on
National Science Foundation Award Numbers**

**SES-0094942
SBE-0123571
PHY-0114336
EEC-9986866**

September 1, 2000 to June 30, 2007

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EXECUTIVE SUMMARY

BACKGROUND

The National Science Foundation (NSF), Office of Inspector General (OIG), engaged WithumSmith + Brown, PC to perform an audit to determine whether the costs claimed by the University of Michigan (U-M) to NSF for its NSF awards are allowable and in conformity with the terms and conditions of its award agreements and Federal requirements. The audit also reported on U-M's compliance with applicable laws, regulations, and award terms and conditions, and U-M's internal control systems for effectively accounting and administering its NSF funds.

U-M is a major grant recipient with 565 active awards totaling over \$290 million from NSF. This audit encompassed four of U-M's large Center awards which totaled \$57.7 million and represented approximately 20 percent of Michigan's total NSF funding. NSF Center awards are generally large, interdisciplinary research awards of a scope, scale and complexity beyond the resources of any individual investigator or small group and involve collaborations among research groups at one or more locations. Two of the Center awards audited were to support U-M's Institute for Social Research (ISR); another award was for a Physics Center, and the fourth award was for an Engineering Research Center. These large Center awards were chosen by the NSF-OIG for audit because they continue over an extensive period of time and have specific high-risk characteristics such as significant cost sharing, and substantial subaward, consultant, equipment, and participant support costs. These characteristics place NSF Center awards at high risk.

OBJECTIVES

The specific objectives of this engagement were to determine whether the Schedules of Award Costs of U-M presents fairly, in all material respects, the costs claimed by U-M in conformity with the terms and conditions of the NSF award and Federal requirements and to identify matters concerning instances of noncompliance with laws, regulations, and the provisions of the award agreement(s) pertaining to NSF awards and weaknesses in U-M's internal control over financial reporting that could have a direct and material effect on U-M's ability to properly administer, account for, and monitor its NSF awards.

RESULTS AND RECOMMENDATIONS

We audited \$57,708,044 in costs claimed and \$16,587,727 in cost sharing claimed on the Federal Cash Transactions Reports submitted to NSF by the U-M for NSF award numbers SES-0094942, SBE-0123571, PHY-0114336, and EEC-9986866 for the period September 1, 2000 to June 30, 2007. Except for the \$1,604,713 of questioned NSF funded costs (approximately 3% of \$57,708,044 in total claimed costs) and \$136,263 (less than 1% of cost sharing claimed) of at-risk cost sharing, we determined that the costs claimed by the U-M for these NSF awards appear fairly stated and are allowable, allocable, and reasonable. "At-risk" cost share is the amount of required cost sharing that has not been met at the time of the audit, but which the awardee still has time to meet before the end of the award period.

Specifically, we questioned \$894,259 of salaries, travel, internal service charges, participant support, and other direct costs; \$[REDACTED] of associated fringe benefits; \$[REDACTED] of associated indirect costs; and, identified as unsupported \$1,255,542 of cost share for lack of documentation; \$5,626 of associated cost share fringe benefits, and \$[REDACTED] of associated cost share indirect costs. We also questioned \$130,259 of labor costs for lack of adequate labor and effort reports. We also identified \$55,565 of questioned direct costs and identified \$5,830 of cost share as potentially unallowable.

U-M claimed \$5,685,455 of cost sharing on award PHY-0114336, while the budgeted amount was \$4,590,487. However, because we identified \$1,231,231 as unsupported cost share for this award, we concluded that \$136,263 of cost share is "at-risk". For awards SBE-0123571 and EEC-9986866, our identification of unsupported or unallowable cost share (\$44,349 and \$8,119, respectively) did not result in at-risk cost share, because the amount claimed for cost share less the unsupported or unallowed amounts, still exceeded the amount of cost share required.

We noted four significant compliance and internal control deficiencies in U-M's financial management practice that contributed to these questioned costs and unallowable cost share. Specifically, U-M lacks: an effective record retention system for maintaining source documentation; a timely and adequate centralized

monitoring control process over costs it charges to its NSF awards; procedures for monitoring and enforcing labor certification and effort reporting policies; and a written job description for the Director of the FOCUS program even though the University has a policy requiring job descriptions. To address these issues, we recommended that U-M (1a) develop policies that define the specific types of source documentation it will maintain for each major category of Federal grant costs; (1b) develop policies and procedures to amend its record retention system to ensure that the documentation U-M considers necessary to support charges made to its NSF grants can be readily obtained; (2) develop and implement procedures to ensure the Office of Sponsored Programs performs a comprehensive review of NSF award charges with the use of supporting documentation, on at least an annual basis; (3) develop and implement procedures to monitor and enforce the University's labor certification and effort reporting policies; and (4) develop written job descriptions for key management positions relating to NSF awards.

UNIVERSITY OF MICHIGAN RESPONSE

In its response, U-M generally disputed the audit findings and recommendations. U-M indicated that its documentation policies and procedures were adequate, and that we did not communicate that additional support was necessary; U-M also indicated its internal controls over monitoring of award costs are operating effectively; and that its policies and procedures over labor certification are operating effectively in accordance with the Plan Confirmation method as stated in OMB Circular A-21. Finally, U-M indicated that it had a job description for the Director of FOCUS and that the job description adequately states the responsibilities of the position and was approved by NSF.

However, our comments to U-M's responses indicate that 1) we believe that we did adequately communicate our concerns and that documentation was not available, not adequate, or not provided when requested; 2) because of the lack of adequate documentation, we could not determine that U-M's monitoring controls were operating effectively; 3) U-M was not adequately following the Plan Confirmation method, which requires certification after work was performed and 4) there was no formal U-M job description available for the Director of FOCUS and the job description found in U-M's NSF proposal referenced in U-M's response does not adequately detail the day-to-day responsibilities of the position. As a result, we concluded that U-M's response did not adequately address our recommendations; therefore the findings remain as stated and will be addressed by NSF during its audit resolution process.

U-M's response to each finding is included in its entirety in the text of the report following the auditors' recommendations. Our comments on U-M's responses follow each of their responses. U-M's response is also presented in its entirety in Appendix A of this report. Attachments included in U-M's response contained university policies and procedures, correspondence, and other documentation. Because these attachments are voluminous, they are contained in a separate volume of this report and are available upon request from the NSF OIG.

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 implemented.

For a complete discussion of the audit findings, refer to the Independent Auditors' Report on Internal Control Over Financial Reporting and On Compliance and Other Matters Based on an Audit of Financial Schedules Performed in Accordance with Government Auditing Standards.

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| ACRONYMS | |
| CFR | Code of Federal Regulation |
| Co-PI | Co-Principal Investigator |
| DACS | Division of Acquisition and Cost Support |
| DGA | Division of Grants and Agreements |
| DIAS | Division of Institution and Award Support |
| ERC | Engineering Research Center |
| FCTR | Federal Cash Transactions Report |
| FOCUS | Frontiers in Optical Coherent and Ultra-fast Science |
| FY | Fiscal Year |
| GPM | Grant Policy Manual |
| GSA | General Services Administration |
| MTDC | Modified Total Direct Costs |
| MTU | Michigan Technological University |
| NSF | National Science Foundation |
| OIG | Office of Inspector General |
| OMB | Office of Management and Budget |
| PI | Principal Investigator |
| PSID | Panel Study of Income Dynamics |
| U-M | University of Michigan |

INTRODUCTION

BACKGROUND

An audit was performed on \$57,708,044 in costs claimed and \$16,587,727 in cost sharing claimed on the Federal Cash Transactions Reports submitted to NSF by U-M for NSF award numbers SES-0094942, SBE-0123571, PHY-0114336, and EEC-9986866 for the period September 1, 2000 to June 30, 2007. U-M, as a Federal awardee, is required to follow the cost principles specified in 2 CFR Part 220 (OMB Circular A-21), *Cost Principles for Educational Institutions* and Federal administrative requirements contained in 2 CFR Part 215 (OMB Circular A-110), *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*.

U-M was established in 1817 and provides academic instruction through four-year programs leading to degrees under Bachelor of Arts, Bachelor of Science, or Bachelor of Science in Engineering. The University also has extensive graduate schools. Descriptions of the NSF awards we audited are as follows:

No. SES-0094942. NSF awarded grant no. SES-0094942 to U-M for the period December 1, 2001 to November 30, 2007 in the amount of \$14,373,803 to improve measures in areas affected by the longer period of the study's interview, assess the research value of the newly added content domains, and improving the processing and delivery of the data that is collected. The Panel Study of Income Dynamics (PSID) was a longitudinal study of a sample that is representative of U.S individuals and their families. The study's long-term span, innovative genealogical design and comprehensive content have been critical to the fundamental understanding of a wide variety of key social science issues, including those life's course effects. The study has been running since 1968 and with the thirty-plus years of data on the same families the PSID can be considered a cornerstone of the infrastructure support for empirically based social science research. Through its long-term measures of economic and social well being, and based on its representative sample of U.S. families, the study helped researchers and policy makers confront and learn from the dynamism inherent in economic processes. The award was for an initial five-year period that terminated on November 30, 2007.

We conducted our audit of this award for the period December 1, 2001 to June 30, 2007. Cumulative disbursements for grant number SES-0094942 reported to NSF for the audit period were \$12,456,571. U-M was not required to provide cost sharing for this award.

No. SBE-0123571. NSF awarded cooperative agreement no. SBE-0123571 to U-M for the period January 1, 2002, to December 31, 2007 in the amount of \$3,946,508 for the purpose of the ADVANCE Program to increase the participation of women in the science and engineering workforce through the increased representation and advancement of women in academic science and engineering careers. The goal of the project was to contribute to the development of a national science and engineering academic workforce that includes the full participation of women at all levels of faculty and academic leadership, particularly at the senior academic ranks, through the transformation of institutional practices, policies, climate, and culture. The multi-level program was designed to improve the campus environment for women faculty in science and engineering at the U-M, and as a result to increase the successful recruitment, retention and promotion of tenure-track women faculty in basic science fields. The award was for an initial five-year period that was originally intended to terminate on December 31, 2006. The award was subsequently amended to extend the termination date one year to December 31, 2007.

We conducted our audit of this award for the period January 1, 2002 to June 30, 2007. Cumulative disbursements for grant number SBE-0123571 reported to NSF through June 30, 2007 were \$3,775,840. U-M also claimed \$1,913,794 of cost sharing to NSF for the audit period. Cost sharing required for the award period was \$1,160,055.

No. PHY-0114336. NSF awarded cooperative agreement no. PHY-0114336 to U-M for the period August 1, 2001 to July 31, 2008 in the amount of \$17,975,920 to provide national leadership in the areas of coherent control, ultra-fast and high field physics. The work of Frontiers in Optical Coherent and Ultra-fast Science (FOCUS) included one major research component in each of the above three areas with scientific studies involving the following activities: (1) coherent manipulation of molecular bonds and

molecule motion and the control of quantum mechanics in ultra-cold atoms and ions, (2) the production, control and utilization of light pulses shorter than one thousandth of one trillionth of a second and (3) physics of ultrahigh intensity laser fields, exceeding a ten billion trillion watts-per-square-centimeter. The award was for an initial five-year period that was originally intended to terminate on July 31, 2006. The award was subsequently amended to extend the termination date to July 31, 2008.

We conducted our audit of this award for the period August 1, 2001 through June 30, 2007. Cumulative disbursements for grant number PHY-0114336 reported to NSF through June 30, 2007 were \$16,887,069. U-M also claimed \$5,685,455 of cost sharing to NSF for the audit period. Cost sharing required for the award period was \$4,590,487.

No. EEC-9986866. NSF awarded cooperative agreement No. EEC-9986866 to U-M for the period September 1, 2000 to August 31, 2010 in the amount of \$25,419,401. The focus of the award was on miniature low-cost integrated microsystems capable of measuring or controlling a variety of physical parameters, interpreting the data, and communicating with a host system over bi-directional parameters, interpreting the data, and communicating with a host system over a bi-directional wireless link. The Engineering Research Center (ERC) was targeted at the intersection of micro-power electronics, wireless communications, and micro-electromechanical systems (NEMS). The resulting devices are expected to become pervasive in society during the next two decades, with applications ranging from environmental monitoring (weather, global warming, air and water quality) to improved health care (wearable and implantable biomechanical systems). The ERC brought together faculty from the University of Michigan, Michigan State University, and Michigan Technology University, with expertise in VLSI design and computer architecture, wireless communications, packaging, medicine, and NEMS. The Center was supported by the State of Michigan and over twenty companies having vital interest in these areas. The four research thrusts of the ERC focus on micro power circuits, wireless interfaces, sensors and micro instruments, and micro packaging.

The award was for an initial five-year period that was originally intended to terminate on August 31, 2005. The award was subsequently amended to extend the termination date to August 31, 2010.

We conducted our audit of this award for the period September 1, 2000 through June 30, 2007. Cumulative disbursements for grant number EEC-9986866 reported to NSF through June 30, 2007 were \$24,588,564. U-M also claimed \$8,988,478 of cost sharing to NSF for the audit period, as of February 28, 2007. Cost sharing required for the award period was \$4,826,407.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

The objectives of our audit engagement were to:

1. Determine whether U-M's Schedules of Award Costs (Schedules A-1 to A-4) present fairly, in all material respects, the costs claimed on the Federal Cash Transactions Reports – Federal Share of Net Disbursements and if the costs 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 the NSF awards and weaknesses in U-M's internal control over financial reporting that could have a direct and material effect on the Schedules of Award Costs (Schedules A-1 to A-4) and U-M'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; the standards applicable to financial audits contained in *Government Auditing Standards (2003 Revision)* issued by the Comptroller General of the United States; and the guidance provided in the *National Science Foundation OIG Financial Audit Guide (August 2007)* as applicable. These standards and the *National Science Foundation OIG Financial Audit Guide* require that we plan and perform the audit to obtain reasonable assurance about whether the amounts claimed to the National Science

Foundation as presented in the Schedules of Award Costs (Schedules A-1 to A-4), 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 to A-4). An audit also includes assessing the accounting principles used and significant estimates made by U-M, as well as evaluating the overall financial schedules' presentation. We believe that our audit provides a reasonable basis for our opinion.

AUDIT FINDINGS AND RECOMMENDATIONS



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INDEPENDENT AUDITORS' REPORT ON FINANCIAL SCHEDULES

We have audited costs claimed by the University of Michigan (U-M) 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 numbers SBE-0123571, PHY-0114336, and EEC-9986866. The FCTRs, as presented in the Schedules of Award Costs (Schedules A-1 through A-4) are the responsibility of U-M's management. Our responsibility is to express an opinion on the Schedules of Award Costs (Schedules A-1 through A-4) based on our audit.

| <u>Award Number</u> | <u>Award Period</u> | <u>Audit Period</u> |
|---------------------|----------------------|----------------------|
| SES-0094942 | 12/01/01 to 11/30/07 | 12/01/01 to 06/30/07 |
| SBE-0123571 | 01/01/02 to 12/31/07 | 01/01/02 to 06/30/07 |
| PHY-0114336 | 08/01/01 to 07/31/08 | 08/01/01 to 06/30/07 |
| EEC-9986866 | 09/01/00 to 08/31/10 | 09/01/00 to 06/30/07 |

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 the *Government Auditing Standards* (2003 Revision) issued by the Comptroller General of the United States; and the *National Science Foundation OIG Financial Audit Guide*, August 2007, as applicable. These standards and the guidance provided by the *National Science Foundation OIG Financial Audit Guide* require that we plan and perform the audit to obtain reasonable assurance about whether the amounts claimed to NSF as presented in the Schedules of Award Costs (Schedules A-1 through A-4), 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-4). An audit also includes assessing the accounting principles used and significant estimates made by U-M's management, as well as evaluating overall financial schedule presentation. We believe that our audit provides a reasonable basis for our opinion.

The accompanying financial schedules were prepared to comply with the requirements of the *National Science Foundation OIG Financial Audit Guide* as described in the Notes to the Schedules, and are not intended to be a complete presentation of U-M's financial position in conformity with accounting principles generally accepted in the United States of America.



The Schedules of Questioned Costs (Schedules B-1 through B-4) explain the \$1,604,713 (3%) of NSF funded costs that we questioned for allowability. These questioned costs include salaries, fringe benefits, travel, internal service charges, and other direct costs, the purchase of materials and supplies which were not supported by source documentation; and the applicable indirect costs. These questioned costs also include other unallowable salary, wages, travel, and stipends/fellowship costs.

Questioned costs are (1) costs for which there is documentation that the recorded costs were expended in violation of the laws, regulations or specific award conditions, (2) costs that require additional support by the awardee, or (3) costs that require interpretation of allowability by NSF's Division of Institution and Award Support. At-risk cost sharing is the amount of required cost sharing that has not been met at the time of the audit, but which the awardee still has time to meet before the end of the award period. The final determination as to whether such costs are allowable will be made by NSF. 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 \$1,604,713 of questioned NSF funded costs and the \$136,263 of at-risk cost sharing, the Schedules of Award Costs (Schedules A-1 through A-4) referred to above present fairly, in all material respects, costs claimed on the FCTRs and cost sharing claimed for the period September 1, 2000 to June 30, 2007, in conformity with the *National Science Foundation OIG Financial Audit Guide*, *NSF Grant Policy Manual*, the terms and conditions of the NSF awards, and on the basis of accounting policies described in the Notes to the Financial Schedules. 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 the provisions of the *National Science Foundation OIG Financial Audit Guide*, we have also issued a report dated July 2, 2009, on our consideration of U-M's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, the NSF award agreements, and other matters. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and the *National Science Foundation OIG Financial Audit Guide* and should be considered in assessing the results of our audit.

This report is intended solely for the information and use of the U-M's management, NSF, U-M's cognizant Federal 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 these specified parties.

Our audit was performed for the purpose of forming an opinion on the Schedule of Award Costs (Schedules A-1 to A-4) taken as a whole. The accompanying Summary Schedule of Awards Audited and Audit Results (Schedule C) is presented for the purpose of additional analysis as required by the *National Science Foundation OIG Audit Guide*, and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

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July 2, 2009



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**INDEPENDENT AUDITORS' REPORT ON
 INTERNAL CONTROL OVER FINANCIAL REPORTING
 AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT
 OF FINANCIAL SCHEDULES 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-4), which summarize financial reports submitted by the University of Michigan (U-M) to the National Science Foundation (NSF) for the awards listed below and claimed cost sharing for awards No.SBE-0123571, PHY-0114336, and EEC-9986866 and have issued our report thereon dated July 2, 2009

| Award Number | Award Period | Audit Period |
|--------------|----------------------|----------------------|
| SES-0094942 | 12/01/01 to 11/30/07 | 12/01/01 to 06/30/07 |
| SBE-0123571 | 01/01/02 to 12/31/07 | 01/01/02 to 06/30/07 |
| PHY-0114336 | 08/01/01 to 07/31/08 | 08/01/01 to 06/30/07 |
| EEC-9986866 | 09/01/00 to 08/31/10 | 09/01/00 to 06/30/07 |

We conducted our audit of the Schedule of Award Costs as presented in Schedules A-1 through A-4 in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in the *Government Auditing Standards* (2003 Revision), issued by the Comptroller General of the United States; and the *National Science Foundation OIG Financial Audit Guide*, August 2007, as applicable. These standards and the *National Science Foundation OIG Financial Audit Guide* require that we plan and perform the audit to obtain reasonable assurance about whether the financial schedules are free of material misstatement.

INTERNAL CONTROL OVER FINANCIAL REPORTING

In planning and performing our audit of the Schedules of Award Costs (Schedules A-1 to A-4) for the period September 1, 2000 through June 30, 2007, we considered U-M's internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing our opinion on



the financial schedules and not to provide an opinion on U-M's internal control over financial reporting. Accordingly, we do not express such an opinion.

Our consideration of the internal control over financial reporting was for the limited purpose described in the preceding paragraph and would not necessarily identify all deficiencies in internal control over financial reporting that might be significant deficiencies or material weaknesses. However, as discussed below, we identified certain deficiencies in internal control over financial reporting that we consider to be significant deficiencies.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the organization's ability to initiate, authorize, record, process, or report financial data consistent with management's assertions in the financial schedules, such that there is more than a remote likelihood that a misstatement of U-M's financial schedules that is more than inconsequential will not be prevented or detected by U-M's internal control. We consider the deficiencies described as Findings 1 through 4 on the following pages to be significant deficiencies in internal control over financial reporting.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial schedules will not be prevented or detected by the organization's internal control.

Our consideration of the internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in the internal control that might be significant deficiencies, and accordingly would not necessarily disclose all significant deficiencies that are also considered to be material weaknesses. However, none the significant deficiencies described as Findings 1 through 4 are considered to be material weaknesses.

COMPLIANCE AND OTHER MATTERS

Compliance with applicable Federal laws, regulations, and NSF award terms and conditions is the responsibility of U-M's management. As part of obtaining reasonable assurance about whether U-M's financial schedules are free of material misstatement, we performed tests of U-M'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 the financial schedule amounts. However, providing an opinion on compliance with these 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 OIG Financial Audit Guide*; and are described in Findings 1 through 3, in the following pages.

U-M's response to each of the findings identified in our audit is described after the finding and is included in its entirety in Appendix A. We did not audit U-M's response and, accordingly, we express no opinion on it.

This report is intended solely for the information and use of U-M's management, NSF, U-M's cognizant Federal 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 these specified parties.

A handwritten signature in blue ink that reads "Withum Smith & Brown, PC".

July 2, 2009

FINDINGS

Finding 1 – Lack of Effective Record Retention System for Maintaining Source Documentation

U-M lacks an effective record retention system for maintaining source documentation. U-M was unable to provide documentation for \$2,149,801 (\$894,259) of direct costs and \$1,255,542 of cost share; 11% of the total cost transactions requested) of costs charged to its NSF grants. With the inclusion of the associated fringe benefits [REDACTED] and associated indirect costs ([REDACTED] related to the \$2,149,801, U-M was unable to provide documentation for a total of [REDACTED] of costs charged to its NSF awards. Moreover, of the records U-M did provide, it required over 10 staff people more than 250 hours to search and obtain these records.

2 CFR Part 215 (OMB Circular A-110), Subpart C, §.21(b)(6), requires written procedures for determining the reasonableness, allocability and allowability of costs in accordance with the provisions of the applicable Federal cost principles and the terms and conditions of the award. 2 CFR Part 215, Subpart C, §.21(b) (7), requires accounting records including cost accounting records that are supported by source documentation.

2 CFR Part 215, Subpart C, §.23 (a) states that cost sharing expenses must be verifiable from the recipient's records, and that the expenditure must be necessary and reasonable for proper and efficient accomplishment of project or program objectives and allowable under the applicable cost principles. Additionally, NSF's Grants Policy Manual Section 333.6, Cost Sharing Records and Reports, provides detailed guidance on the level of documentation that the grantee must retain regarding cost sharing. It states that, "grantees shall maintain records of all research project costs that are claimed by the grantee as being its contribution to cost participation, as well as records of costs to be paid by the government."

Also, NSF Grants Policy Manual Section 350, Records Retention and Audit, as well as 2 CFR Part 215, Subpart C, §.53 (b) state that financial records, supporting documents, statistical records, and other records pertinent to a grant will be retained by the grantee for a period of three years from submission of the Final Project Report, which has not been submitted for any of the awards we audited.

During this engagement, we selected 657 cost transactions (including both NSF funded costs and cost share) that U-M charged to its NSF grants for audit testing. Because of poor record retention practices, U-M officials indicated that it required over 10 people more than 250 hours to assemble the documentation to support these selected cost transactions. Moreover, U-M had to reconstruct documentation for some cost transactions, while in other instances U-M was unable to provide adequate source documentation to support the transactions. There were a total of 69 unsupported transactions (11% of the total cost transactions selected) which totaled \$2,149,801 (\$894,259 of direct costs and \$1,255,542 of cost share). We questioned the \$894,259 of direct costs as well as the associated fringe benefits (\$[REDACTED]) and indirect costs (\$[REDACTED]), and identified as unsupported the \$1,255,542 of cost share and the associated fringe benefits (\$[REDACTED]) and indirect costs (\$[REDACTED]), for a total of [REDACTED], as indicated below.

Twenty-five of the 69 unsupported cost transactions were for \$178,861 of salaries and wages for which U-M could not provide time and effort reports. The majority of these transactions were primarily concentrated in the EEC-9986866 grant (18 transactions totaling \$123,783), while 4 transactions (\$25,161) were in PHY-0114336, 1 transaction (\$1,505) in SES-0094942, 1 transaction (\$6,420) in SBE-0123571 and 1 transaction (\$21,992) in cost share. All but 2 of the 25 questioned salary and wage costs related to a prior time and effort reporting system that U-M no longer uses. The remaining 2 questioned transactions relate to Fiscal Year (FY) 2007 and U-M's current time and effort reporting system. As a result, we questioned or identified as unsupported cost share \$178,861 of salaries and wages, [REDACTED] of associated fringe benefits, and \$[REDACTED] of associated indirect costs, for a total of \$[REDACTED]. Please see Finding 3 for further information regarding U-M's time and effort reporting system.

U-M also could not provide adequate documentation to support 29 journal entries totaling \$719,554 for costs which U-M charged to its NSF grants. We questioned 24 direct cost transactions totaling \$647,034

charged to NSF grant SES-0094942, four direct costs transactions totaling \$57,706 charged to EEC-9986866 and one direct cost transaction totaling \$14,814 charged to SBE-0123571. In addition, we questioned the associated fringe benefits of [REDACTED] and indirect costs of [REDACTED], for total questioned costs of [REDACTED]

Additionally, we identified as unsupported one cost share transaction totaling \$1,229,023 for lack of adequate documentation. This one cost share transaction consisted of a lump sum journal entry to move equipment fabrication charges from one project to cost sharing related to PHY-0114336. The cost sharing transfer was recorded in FY 2007 for expenses incurred from July 1998 to October 2006.

We also identified as potentially unallowable eight additional cost sharing transactions totaling \$4,527 and the associated indirect costs [REDACTED] for a total of [REDACTED], because we could not determine the relationship of these costs to the NSF grant from the documentation provided by U-M. It is important to note that the \$1,235,889 of total identified unsupported or unallowed cost share, did not result in excess Federal costs or at-risk cost share on awards SBE-0123571 and EEC-9986866, and when combined with the unsupported cost share in Findings 2 and 3, resulted in at-risk cost share of \$136,263 for award PHY-0114336.

Also, we questioned five direct cost transactions from FY 2007 (\$14,185) and the associated fringe benefits [REDACTED] and indirect costs [REDACTED] for a total of \$[REDACTED], because U-M did not provide sufficient information to allow us to determine whether an internal copier recharge, a dental insurance payment, administrative and research salaries, and a health insurance subsidy cost were reasonable, allowable, and allocable to NSF awards EEC-9986866, SES-0094942, and PHY-0114336.

Finally, we questioned one purchase card transaction of \$7,110 and the associated indirect costs of [REDACTED] for a total of [REDACTED], charged to NSF award PHY-0114336 for laboratory supplies due to lack of documentation for a portion of the charge.

U-M's records retention system was ineffective for two reasons. First, U-M's policies and procedures did not clearly identify the types of documentation that should be maintained and reviewed in order to comply with Federal requirements (i.e. what level of documentation the University deemed to be sufficient). Second, a significant portion of U-M's charges to its NSF awards related to personnel compensation and internal service recharges. Such charges were recorded into U-M's general ledger through the use of lump sum journal entries that were based on "chartfield" combinations. "Chartfield" combinations are a type of account numbering system where costs are recorded by projects rather than by cost type. However, the design of U-M's document storage and retrieval system did not allow retrieval of information and documentation on the individual project transactions (e.g., retrieval of information based on cost type) in sufficient detail to allow for analysis of that cost with regard to compliance with the Federal award.

Recommendation 1:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M:

- Develop policies that define the specific types of source documentation it will maintain for each major category of Federal grant cost, consistent with 2 CFR Part 215 (OMB Circulars A-110) and 2 CFR Part 220 (OMB Circular A-21), and NSF guidance; and
- Develop policies and procedures to amend its record retention system to ensure that the documentation U-M considers necessary to support charges made to its NSF grants can be readily retrieved from its record retention system.

Auditee's Response

We disagree with the finding and corresponding recommendation as stated. The University of Michigan has a document retention policy in place that is compliant with 2 CFR Part 215 (OMB Circulars A-110) and 2 CFR Part 220 (OMB Circular A-21), and NSF guidance. The policy can be found in Appendix A-1.

At this time the University has provided support for every transaction that it claims is allowable to the projects under review. The finding indicates that the audit team is still questioning 69 items as not being properly supported. In fact, the University provided support for each of these transactions and was never advised that any additional information was necessary. In reviewing a schedule, provided by the auditors, of the 69 transactions the University determined the following:

- 41 transactions – original support provided after the audit team's 01/18/08 departure, all documentation provided by 03/04/08 with accompanying email indicating all remaining support had been provided, no follow-up questions received, original support presumed sufficient.
- 27 transactions – original support provided to the auditors while onsite, no questions from the auditors prior to their 01/18/08 departure, no follow-up questions after their departure, original support presumed sufficient.
- 1 transaction – original support provided to the auditors while onsite, related to the questioned cost share transaction totaling \$1,229,023. While there were numerous conversations about this transaction during the time the audit team was onsite, there was no request for additional detail prior to their 01/18/08 departure date, no requests after their departure and no indication that the documentation provided to them was inadequate. If the audit team had advised the University that additional support was necessary for their review, the University had additional supporting documentation to provide for all of the items included in the transfer.

The finding mentions that it took "...over 10 people more than 250 hours to assemble the documentation to support these selected cost transactions." These totals were inclusive of all the time put forth by University staff from various offices over the course of the multi-month audit cycle including pre-visit, on-site and post-visit follow-up. The substantial amount of activity at the University was reflective of: the sample size, 657 transactions; the amount of preparation/coordination/execution involved in having various audit team members onsite for four weeks; the audit time period of seven fiscal years crossing multiple system and process changes/implementations; and the fact that the audit team had little to no prior experience in University audits.

Finally, the support documentation provided to the audit team was consistent with the types of support provided for other NSF reviews (annual FCTR and site visit) as well as numerous other Federal audits and the University's annual A-133 audit.

Auditors' Comment

We are not in agreement with U-M's response that it "provided support for every transaction that it claims is allowable to the projects under review." While we recognize that the supporting documentation volume was necessarily high in order to meet our audit objectives for four NSF awards that spanned seven years, we nonetheless believe that we provided U-M with ample time and opportunity to provide the information we requested. As described below, we afforded U-M several opportunities to meet our document requests, but the University was unable to do so.

For example, the questioned cost share transaction totaling \$1,229,023 reference by U-M in its response was discussed onsite (as U-M acknowledges) and we indicated that the support provided was not adequate (a copy of the journal entry and a spreadsheet). We requested additional support (documenting the underlying costs that were being transferred) both while we were onsite, and again in our January 28, 2008 email where we included all the missing items that were still outstanding.

In addition, many of the 69 items referred to in the finding were specifically included in a spreadsheet attached to an email dated January 18, 2008 and included requests for additional documentation, such as labor effort reports that were never provided. Because of the complexity of some of the systems, information was frequently required from multiple sources in order to provide us with the documentation required for us to perform our audit procedures.

All documentation requested by us from U-M was not received from the University by the time our onsite fieldwork concluded on January 18, 2008. In fact, as of January 18, 2008 we were still awaiting over 300 sample items that totaled approximately \$10 million dollars. This constituted 50% of the total samples selected for transaction testing for this engagement. Indeed, due to the significant amount of missing documentation (in both dollar and volume), we extended U-M's deadline for document production to February 22, 2008 in order to allow for U-M to provide to us the remaining requested documentation. We acknowledge that U-M did provide us with several batches of documents through the month of February 2008. As a result of the documents we received from U-M, we were able to reduce the number of outstanding items from over 300 to 69 transactions.

U-M was aware of the matter regarding the remaining 69 outstanding document request items. After we reviewed the documentation received from U-M on February 28, 2008, we then provided a notification of findings (NOF) relating to this matter to U-M on May 19, 2008. This NOF listed in summary and detail each of the 69 transactions we believed remained unresolved and our comment as to what still needed to be provided to support the transaction.

Finally, we advised U-M of these remaining outstanding items and discussed them in detail during our exit conference held on June 17, 2008. Because documentation supporting the questioned costs was not adequate, not available, or not provided, the costs will remain questioned. This report finding should not be closed until NSF determines that corrective actions have been satisfactorily implemented by U-M.

Finding 2 – Lack of Adequate Centralized Monitoring Control

U-M lacks a timely and adequate centralized monitoring control process over costs it charges to its NSF awards. U-M's centralized monitoring control (or detective control) is a final review process performed by the Office of Sponsored Programs (OSP) to ensure that costs charged to NSF and other Federal awards are allowable and allocable. However, OSP performs its monitoring control process at award closeout, which is usually years after a cost is incurred and charged to an NSF or other Federal award. Due to this significant time lag, and U-M's ineffective record retention system, OSP is often unable to obtain adequate documentation to conduct an appropriate final review of costs charged to NSF and other Federal awards. As a result, \$61,395 (\$55,565 direct costs and \$5,830 of cost share) of total unallowable costs were charged to U-M's NSF awards.

2 CFR Part 215 (OMB Circular A-110), Subpart C, §.21(b)(3) states that an award recipient shall have "effective control over and accountability for all funds." Subpart C, §.51 (a) also requires recipients to manage and monitor each project, program, and sub-award.

U-M employs several processes designed to ensure that costs charged to NSF and other Federal awards are reasonable, allowable, and allocable to the relevant award. These processes include preventive controls such as authorization and approval before a transaction is initiated and recorded, and centralized monitoring controls, or detective controls consisting of reviews and procedures conducted after transactions have been recorded and costs have been charged to NSF awards.

U-M's preventive controls for most transaction types are performed at the Department level, where expense transactions are initiated, approved, processed, and recorded. In addition, charges to awards may also be made by certain centralized services, and those preventive controls occur at the Department that performs the services, rather than the Department administering the award. While U-M's detective controls include the monitoring of budget to actual expenses at the Department level, the final detective control is the centralized monitoring control process which takes place at OSP.

Specifically, OSP conducts a final, detailed review of accounts and costs charged to Federal grants to ensure that all costs are allowable and allocable according to grant terms. However, this OSP review only takes place upon award closeout, which is several years after costs have been incurred and charged to U-M's Federal grants and reimbursed by NSF and other Federal agencies. Moreover, due to U-M's lack of an effective record retention system, the appropriate records needed by OSP to conduct its final review efficiently and effectively are not always available.

Although we did not identify systemic weaknesses in the preventive controls at the Department level, we did find unallowable costs that were charged to U-M's NSF awards which detective controls would have prevented, if they would have been conducted in a more timely manner. For example, in our internal control sample of 48 transactions, 3 transactions (2 direct cost and 1 cost share) relating to three different NSF awards totaling \$16,861 (\$11,031 of direct costs and \$5,830 of cost sharing) were unallowable charges which the awardee stated that the charges should not have been made to its NSF awards. The three transactions were FY 2007 student scholarship/fellowship aid and stipends which were charged as direct costs to PHY-0114336 (\$4,797) and SBE-0123571 (\$6,234), and as cost sharing relating to EEC-9986866 (\$5,830). The awardee indicated this was an oversight on the part of the Departments responsible for overseeing these awards, and that this would have been caught by OSP at the time of award closeout. However, at the time of our audit, these unallowable costs were charged to and reimbursed by NSF.

Additional costs claimed by U-M that we questioned which were not identified in the Departmental review procedures but which could have been prevented by a timely centralized monitoring control process included:

- Alcohol charges on a hotel bill for \$637 and the associated indirect costs (██████) for a total of ██████ were charged to NSF award SBE-0123571. Such charges are unallowable per 2 CFR Part 220 (OMB Circular A-21).
- Salaries totaling \$21,083 and related fringe benefits (██████) and indirect costs (██████) for a total of ██████ were charged to NSF award EEC-9986866 for two months even though the employee was no longer employed by the University.
- Payments totaling \$3,200 and associated indirect costs (██████) for a total of ██████ were charged to NSF award PHY-0114336 for a foreign visitor to Ann Arbor at \$100/day for meals with no receipts. Such charges were in violation of University policy as well as in excess of the Federal Travel Regulation.

Because the detective controls performed by OSP do not occur until award closeout, and are performed without access to all supporting documentation, these unallowable costs were not caught and corrected on a timely basis. Thus, timely monitoring of costs charged to NSF and Federal awards is a key component of effective internal control. Without an adequate monitoring process, the risk increases that unallowable or undocumented charges may be recorded and claimed to NSF and not be detected in a timely manner.

Recommendation 2:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M develop and implement procedures to ensure the Office of Sponsored Programs performs a comprehensive review of NSF award charges, with the use of supporting documentation, on at least an annual basis instead of only at grant closeout.

Auditee's Response

We disagree with the finding and corresponding recommendation as stated. The University has the necessary policies and procedures in place to insure appropriate fiduciary stewardship of NSF awards. The responsibility for fiscal monitoring is handled at multiple levels in the organization and is documented in the University policy on fiscal responsibilities which can be found in Appendix B-1. In short, there are various levels of review at the central office and departmental level.

The Office of Sponsored Programs (central office) reviews and approves transactions on a risk assessment basis (equipment purchases, foreign travel, consulting, cost transfers, budget creation/modification). It also processes invoices/collections, letter of credit draws, financial reports; completes system closeout of awards; reviews Federal projects for A-21 costing compliance; and provides customer service to Principal Investigators and their unit based administrative support staff.

Per the University's policy on fiscal responsibility, detective controls are a requirement of unit based individuals who participate in award oversight (Project Directors, Administrators, Deans/Directors/Department Chairs). The role played by the Office of Sponsored Programs in relation to detective controls is supportive of the unit efforts. Final review of project costs at award/system closeout by the Office of Sponsored Programs insures that all required policies/procedures have been followed/documentated.

With regard to the specific audit findings, the University acknowledges that the charges incurred as student compensation were initiated contrary to University policy. The students did, in fact, work on the projects but the mechanism of payment was erroneous. This would have been discovered at the time of review by the central office and would have been corrected before the final expenditures were reported. The alcohol charges of \$637 and associated indirect costs of [REDACTED] that were discovered were removed immediately from the project upon discovery.

The salaries of \$21,083, related benefits of [REDACTED] and indirect costs of [REDACTED] were an erroneous payroll adjustment that occurred in October, 2006. These charges were reversed in November, 2006 as part of the detective controls in place at the University. It should be noted that the terminated individual did not receive any additional funds as a result of this adjustment and reversal. At the time the review was performed, both the charge and reversal had already taken place.

While the University's travel policy allows for actual and reasonable expenditures and does not require receipts for any non-lodging expenditure under \$75 in accordance with Internal Revenue Service standards, the University agrees to remove the meal costs of \$3,200 and indirect costs of [REDACTED] as stated in the finding.

The number of instances where this review of NSF projects results in the discovery of unallowable costs not caught by other preventive and detective controls is infrequent and immaterial. As noted above, out of the 657 transactions that were reviewed by the auditors on four awards that totaled approximately \$74 million, only one of them contained an unallowable cost of \$962 and one other contained a questionable cost of \$4,832.

The University continues to assess the risk of its monitoring process, both centrally and at the departmental level. Going forward, the University will continue to work with the departmental administrators to ensure that their review is done in accordance with the standards as stated in University policy. It is our opinion that the University should not change the frequency of its central monitoring process based on the findings of this review.

Auditors' Comment

Because of the lack of adequate documentation on the 69 items identified in Finding 1, which represents approximately 10% of the sampled transactions, we do not believe the University nor the auditors can adequately assess its controls or can be reasonably assured that its controls are operating as intended. Therefore, we do not have sufficient evidence to conclude that controls are operating effectively. This report finding should not be closed until NSF determines that corrective actions have been satisfactorily implemented by U-M.

Finding 3 – Lack of Procedures for Monitoring and Enforcing Labor Certification and Effort Reporting Policies

U-M lacks procedures for the monitoring and enforcing of its labor certification and effort reporting policies. Although U-M has policies that require its employees to certify their labor and effort reports after the fact as required by NSF grant terms and Federal requirements. U-M's policies were not always followed by U-M personnel. This occurred because U-M did not have procedures to adequately monitor and enforce its own labor certification and effort reporting policies. As a result, we questioned \$130,259 of labor under this finding. It should be noted that an additional \$199,944 (\$178,861 + \$21,083) of direct

labor costs which would have been questioned under this finding have already been questioned under Findings 1 and 2, as described below.

2 CFR Part 220 (OMB Circular A-21, *Cost Principles for Educational Institutions*,) requires certification of labor effort/activity contributed by employees on Federal awards. Specifically, paragraph J.10.b requires that wages and salaries charged to NSF awards reasonably reflect the actual labor effort contributed by the employee to meet the objectives of the award. While a university can initially charge NSF awards based on estimates of labor effort that are expected to be contributed, the University is expected to subsequently confirm that the level of effort reported was consistent with the actual effort expended. Accordingly, the system must provide for after-the-fact confirmation of employee activity by a responsible person with "suitable means of verification that the work was performed."

U-M has policies and procedures designed to ensure compliance with Federal regulations regarding labor certification and effort reporting. These policies and procedures have evolved over the past 8 years. U-M commenced using its current Human Resource system in 2001, and in FY 2002-FY 2003, the Office of Cost Reimbursement took over the labor certification and effort reporting system and began to automate that process. Despite the automation process, paper labor certification and effort reports were used extensively through FY 2006. After FY2006, U-M's labor certification and effort reporting system became almost completely electronic but there are still some effort reports that are completed on paper and then imaged into the automated system.

Despite the existence of U-M labor certification and effort reporting policies and procedures, U-M employees charging time to two NSF awards did not always certify after-the fact effort reports or timesheets, as required by Federal regulations. Specifically, 37 effort reports we sampled were certified by the employee prior to the end of the applicable reporting period, rather than after-the-fact. Thirty-one of these 37 effort reports related to NSF award EEC-9986866, for a total of \$52,380 and related fringe benefits (██████) and indirect costs (██████) for a total of \$██████. The other six time sheets related to NSF award SES-0094942, for a total of \$19,322 and related fringe benefits (██████) and indirect costs (\$██████) for a total of \$██████. Because U-M employees did not follow U-M's policies and procedures requiring after-the-fact certifications on timesheets, we questioned a total of \$130,259.

Additionally, U-M could not provide documentation (e.g., University time sheets) to support twenty-five salaries and wages transactions totaling \$178,861 as follows:

| NSF Award | No. of transactions | Amount |
|--------------|---------------------|------------|
| SES-0094942 | 1 | \$ 1,505 |
| SBE-0123571 | 1 | 6,420 |
| PHY-0114336 | 4 | 25,161 |
| EEC-9986866 | 18 | 123,783 |
| Cost Sharing | 1 | 21,992 |
| Total | 25 | \$ 178,861 |

Of these 25 transactions, only 2 relate to FY 2007. The remaining missing documentation was from U-M's prior labor effort reporting system. However, because we have already questioned or identified as unallowable cost share this \$178,861 in Finding 1, we are not questioning them again in this Finding.

Finally, although the University implemented a new policy in 2004 to automate the termination of salary for employees who had appointment end dates (e.g., would no longer be working at the University after a certain date per their contracts), other types of terminations still require manual intervention to adjust payroll. As a result, U-M charged NSF award EEC-9986866 for two months of salary for a terminated employee. However, because \$21,083 of salary costs erroneously charged to NSF award EEC-9986866 were questioned in Finding 2, we are not questioning them again in this Finding.

U-M's lack of procedures for monitoring and enforcing its labor certification and effort reporting policies resulted in charges to Federal awards that did not reflect actual labor effort expended on its NSF awards. Moreover, U-M was not in compliance with Federal regulations requiring personnel compensation supported by after-the-fact effort reports. As a result, we questioned costs totaling \$130,259.

Likewise, without adequate monitoring procedures, unallowable and undocumented charges were recorded and claimed to NSF by U-M. However, because these costs were already questioned in Findings 1 and 2, we are not questioning additional amounts related to these unallowable and undocumented costs totaling \$199,944 (\$178,861 of unsupported costs + \$21,083 of unallowable costs).

Recommendation 3:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M develop and implement procedures to monitor and enforce the University's labor certification and effort reporting policies, including the development of procedures for follow-up on reports not certified properly.

Auditee's Response

We disagree with the finding and corresponding recommendation as stated. The University has the necessary policies and procedures in place to monitor and enforce the University's labor certification and effort reporting policies. These policies are compliant with 2 CFR Part 220 (OMB Circular A-21, Cost Principles for Educational Institutions,) and can be found in Appendix C-1.

The auditors' recommendation is based on the assumption that certification must be performed on an "after-the-fact" methodology. OMB Circular A-21 allows for other allowable options for the certification process. The University utilizes the Plan Confirmation method for payroll distribution as stated in OMB Circular A-21 J.10.c.(1). Section J.10.c.(1).(e). states that "At least annually a statement will be signed by the employee, principal investigator, or responsible official(s) using suitable means that the work was performed.....". This process had been audited and reviewed by the University's internal audit department, external A-133 auditors, the DHHS Division of Cost Allocation as part of the indirect cost negotiations, and by numerous Federal agencies through the course of various audits. While this was explained to the auditors numerous times, there appeared to be a lack of understanding of the process and requirements of Circular A-21 concerning this matter.

Auditors' Comment

We concur that the University may follow the Plan Confirmation method for payroll distribution. As U-M states in their response, at least annually the employee must certify that work **was** performed (emphasis added). In addition, the University Policy states (page 31) "At **the end of each certification period**, the distribution is confirmed when the employee signs the Effort Certification Report" (emphasis added). The policy further states (page 32) "The Cost Reimbursement Office of Financial Operations will initiate an email to all employees required to certify in early July of each year."

Our finding relates to 37 employees who certified their labor effort reports prior to the end of the certification period, which is not in accordance with either U-M's own policy or OMB Circular A-21. We are not taking exception to the University policy as stated, but are instead referring to those instances that we tested in which U-M's own policy was not being followed or for which U-M was not in compliance with Federal regulations. U-M's lack of procedures for monitoring and enforcing its labor certification and effort reporting policies thus resulted in charges to Federal awards that did not reflect actual labor effort expended on NSF awards based on after-the-fact reporting.

This report finding should not be closed until NSF determines that corrective actions have been satisfactorily implemented by U-M.

Finding 4 – Lack of Written Job Description for a Key Position Related to an NSF Program

U-M did not have a written job description for the Director of the FOCUS program even though the University has a policy requiring job descriptions. The Director of the FOCUS program is the Co-Principal Investigator (Co-PI) representing U-M on NSF's PHY-0114336 award. This is significant because of the large dollar value of NSF awards (approximately \$18 million of NSF funds for the FOCUS Award; \$58 million of NSF funds total for the four NSF awards audited in this engagement).

2 CFR Part 215 (OMB Circular A-110), Subpart C, §.21 (b) (3) requires recipients to maintain effective control over and accountability for all funds, property and other assets. Also, 2 CFR Part 215 (OMB Circular A-110), Subpart C, §.51 (a), requires recipients to manage and monitor each project, program, and sub-award.

OMB Circular A-133, Subpart C, Subsection .300 (b), requires auditees to maintain internal control over Federal programs that provides reasonable assurance that the auditee is managing Federal awards in compliance with laws, regulations, and the provisions of contracts or grant agreements that could have a material effect on each of its Federal programs.

U-M also has an instituted policy whereby written job descriptions are utilized at the University. Additionally, the use of written job descriptions is widely accepted as a best business practice and as part of an organization's internal controls.

Although U-M utilizes written job descriptions, a written job description for this key NSF award management position was lacking. U-M management indicated that two directors had left since the inception of the award and that the duties of this function were described in the initial proposal submitted to NSF (over six years prior to audit fieldwork). Thus, no one within the Department saw the need to develop a formal job description for this position.

A lack of a written job description for key U-M personnel over NSF awards increases the risk that awards will not be managed efficiently and effectively because management requirements necessary to comply with key provisions of grant agreements are not formalized through the job description process. This is significant because of the large dollar value of NSF awards (approximately \$18 million of NSF funds for the FOCUS Award; \$58 million of NSF funds total for the 4 NSF awards audited in this engagement). Additionally, the risk that policies and procedures will not be consistently followed, or that unallowable costs will be charged to NSF awards, also increases when management responsibilities are not delineated and defined through a job description.

Recommendation 4

We recommend that NSF's Director of the Division of Institution and Award Support ensures that U-M develop written job descriptions for key management positions relating to NSF awards.

Auditee's Response

We disagree with the finding and corresponding recommendation as stated. The job description for the Director of the FOCUS program was included in the proposal submitted to NSF and can be found in Appendix D-1. It clearly stated the responsibilities of the position and also indicated that the Director would be appointed by the participating Deans and faculty of the Center. It also stated that the Directors would alternate between the two participating schools – Literature Science, and The Arts, and the College of Engineering. The proposal also stated that the Director would change after serving two years. This was accepted by NSF.

Due to the complexity of establishing the Center, the original Director stayed on for the first five year period. After the first five year period, the Director was rotated as proposed. The Directors alternated between the two schools as proposed. [REDACTED] replaced [REDACTED] in March, 2006. He was subsequently replaced by [REDACTED] in January, 2008. The changes in Directors

were submitted to NSF for their approval per their guidelines. These proposed changes were approved by NSF in both instances and can be found in Appendix D-1.

The finding also states that the University requires job descriptions. While this is in essence a true statement, the position of the Director of the FOCUS program is part of the overall appointment of the participating faculty member. It is not a separate appointment. The faculty member appointed is fully aware of the responsibilities of the position. As mentioned previously, the Deans of the respective schools and the faculty are involved in the determination of the Director in accordance with the process stated in the proposal.

Auditors' Comment

We are not disputing that NSF approved the management structure of this program. Rather, our finding relates to the lack of a written job description for a key position related to the NSF FOCUS program. As originally stated in our finding, U-M has an instituted policy whereby written job descriptions are utilized at the University, which is widely accepted as a best business practice as part of an organization's internal controls.

Although U-M utilizes written job descriptions, a written job description for this key NSF award management position was not available. A lack of a written job description for key U-M personnel over NSF awards increases the risk that awards will not be managed efficiently and effectively because management requirements necessary to comply with key provisions of grant agreements are not formalized through the job description process. This is significant because of the large dollar value of NSF awards (approximately \$18 million of NSF funds for the FOCUS award; \$58 million of NSF funds total for the four NSF awards audited in this engagement). Additionally, the risk that policies and procedures will not be consistently followed, or that unallowable costs will be charged to NSF awards, also increase when management responsibilities are not delineated and defined through a job description.

As for the awardee's response that the job description for the FOCUS director can be found in the NSF proposal, our review of that proposal did not reveal that the proposal had a job description. Instead, the U-M proposal only states "The director will have the primary responsibility for overseeing the mission of the Center, and will have specific responsibility over the day-to-day operations." We do not believe this constitutes a sufficient job description as it does not describe what the actual responsibilities over the day-to-day operations of the Director entails.

In addition, U-M states in its response the faculty member appointed to the FOCUS director position is fully aware of the responsibilities of the position, however when we requested that he provide us with a description of what the responsibilities entailed, he could not provide a written job description describing his responsibilities. Thus, the finding remains as stated and this report finding should not be closed until NSF determines that corrective actions have been satisfactorily implemented by U-M.

**FINANCIAL SCHEDULES AND SUPPLEMENTAL
INFORMATION**

University of Michigan
National Science Foundation Award No. SES-0094942
Schedule of Award Costs
Award Period: December 1, 2001 to November 30, 2007
Audit Period: December 1, 2001 to June 30, 2007
Interim

| Cost Category | (A) Approved Budget | (B) Claimed Costs | Adjustments and Reclassifications | Claimed Costs After Adjustments and Reclassifications | Questioned Costs | Schedule Reference |
|---------------------------|---------------------------|-------------------------|--------------------------------------|--|----------------------|-----------------------|
| Direct costs: | | | | | | |
| Salaries and wages | \$ 5,055,775 | \$ 4,021,029 | \$ | \$ 4,021,029 | \$ 73,591 | B-1 |
| Fringe benefits | 1,274,502 | 753,547 | | 753,547 | 17,236 | B-1 |
| Travel | 129,751 | 533,585 | | 533,585 | - | |
| Equipment | 40,000 | - | | - | - | |
| Other | 1,606,727 | - | | - | - | |
| Other direct costs: | | | | | | |
| Materials and supplies | 103,412 | 549,268 | | 549,268 | - | |
| Publication costs | 20,680 | - | | - | - | |
| Consultant services | 166,054 | 38,009 | | 38,009 | - | |
| Computer services | 247,060 | 672,405 | | 672,405 | 137,792 | B-1 |
| Other | 1,522,932 | 1,690,429 | | 1,690,429 | 456,478 | B-1 |
| Total direct costs | 10,166,893 | 8,258,272 | | 8,258,272 | 685,097 | |
| Indirect costs | ██████████ | ██████████ | (C) | ██████████ | ██████████ | B-1 |
| Total | \$ ██████████ | \$ ██████████ | \$ -0- | \$ ██████████ | \$ ██████████ | |
| Cost sharing | \$ -0- | \$ -0- | \$ -0- | \$ -0- | \$ -0- | |

- (A) Award budget for the period December 1, 2001 to November 30, 2007.
- (B) The total representing NSF funded costs claimed agreed with the expenditures reported on the Federal Cash Transactions Report – Federal Share of Net Disbursements as of the quarter ended June 30, 2007.
- (C) U-M claimed indirect costs to NSF based on applying a ██████ rate against claimed Modified Total Direct Cost (MTDC) for all fiscal years in the audit period.

University of Michigan
National Science Foundation Award No. SBE-0123571
Schedule of Award Costs
Award Period: January 1, 2002 to December 31, 2007
Audit Period: January 1, 2002 to June 30, 2007
Interim

| Cost Category | (A) Approved Budget | (B) Claimed Costs | Adjustments and Reclassifications | Claimed Costs After Adjustments and Reclassifications | Questioned Costs | At Risk | Schedule Reference |
|---------------------------|---------------------------|-------------------------|--------------------------------------|--|----------------------|-------------|-----------------------|
| Direct costs: | | | | | | | |
| Salaries and wages | \$ 974,688 | \$ 643,988 | \$ | \$ 643,988 | \$ - | - | |
| Fringe benefits | 236,203 | 164,735 | | 164,735 | - | - | |
| Travel | 82,126 | 96,689 | | 96,689 | 637 | - | B-2 |
| Participant support | 38,750 | 20,039 | | 20,039 | - | - | |
| Other direct costs: | | | | | | | |
| Materials and supplies | 32,388 | 77,218 | | 77,218 | - | - | |
| Publication costs | 6,760 | - | | - | - | - | |
| Consultant services | 36,423 | 105,358 | | 105,358 | - | - | |
| Computer services | - | 161 | | 161 | - | - | |
| Other | 1,417,191 | 1,420,013 | | 1,420,013 | 27,468 | - | B-2 |
| Total direct costs | 2,824,529 | 2,528,201 | | 2,528,201 | 28,105 | - | |
| Indirect costs | ██████████ | ██████████ | (C) | ██████████ | ██████████ | - | B-2 |
| Total | \$ ██████████ | \$ ██████████ | \$ -0- | \$ ██████████ | \$ ██████████ | \$ - | |
| Cost sharing | \$ ██████████ | \$ ██████████ | \$ -0- | \$ ██████████ | \$ - | \$ (D) | |

(A) Award budget for the period January 1, 2002 to December 31, 2007.

(B) The total representing NSF funded costs claimed agreed with the expenditures reported on the Federal Cash Transactions Report – Federal Share of Net Disbursements as of the quarter ended June 30, 2007.

(C) U-M claimed indirect costs to NSF based on applying a ██████████ rate against claimed MTDC in FY 2002, 2003, 2004, and 2005. U-M claimed indirect costs to NSF based on applying a ██████████ rate against claimed in FY 2006 and ██████████ in FY 2007.

Schedule A-2

University of Michigan
National Science Foundation Award No. SBE-0123571
Schedule of Award Costs
Award Period: January 1, 2002 to December 31, 2007
Audit Period: January 1, 2002 to June 30, 2007
Interim

(D) U-M claimed \$1,913,794 of cost sharing. We determined that \$44,349 of cost sharing was unallowable as follows:

Two cost sharing transactions totaling \$1,559 and the associated indirect costs (██████) for a total of ██████ are considered unallowable because the relationship to the NSF project could not be determined from the documentation provided. U-M claims indirect costs to NSF based on applying a 52% rate in FY 2007. As a result, we are considering \$██████ of indirect costs as "at risk." (\$1,559 x ██████)

In addition we are considering unallowable \$21,992 for one salaries and wages transaction which lacked adequate effort reporting to support the amount of cost share recorded, and associated fringe benefits (\$██████) and indirect costs (\$██████) for a total of \$██████. U-M claimed fringe benefits to NSF at a rate of approximately ███% of claimed salaries wages. As a result of the unallowable cost of salary and wages, we are considering \$██████ of fringe benefits as unallowable cost (\$21,992 x ██████). In addition, U-M claimed indirect costs to NSF based on applying a 52% rate in FY 2007, therefore we are considering \$14,361 of indirect costs as unallowable cost based on the unallowable salaries and wages transactions. (\$27,618 x ██████)

However, since the allowable amount was more than the required amount of cost share, we did not identify any cost share "at-risk" or identify excess Federal costs.

University of Michigan
National Science Foundation Award No. PHY-0114336
Schedule of Award Costs
Award Period: August 1, 2001 to July 31, 2008
Audit Period: August 1, 2001 to June 30, 2007
Interim

| Cost Category | (A) Approved Budget | (B) Claimed Costs | Adjustments and Reclassifications | Claimed Costs After Adjustments and Reclassifications | Questioned Costs | At Risk | Schedule Reference |
|---------------------------|---------------------------|-------------------------|--------------------------------------|--|---------------------|------------|-----------------------|
| Direct costs: | | | | | | | |
| Salaries and wages | \$ 5,160,935 | \$ 6,323,101 | \$ | \$ 6,323,101 | \$ 35,847 | - | B-3 |
| Fringe benefits | 1,318,405 | 1,529,736 | | 1,529,736 | 8,671 | - | B-3 |
| Travel | 322,160 | 256,518 | | 256,518 | 3,200 | - | B-3 |
| Participant support | 2,300,000 | 1,194,450 | | 1,194,450 | - | - | B-3 |
| Equipment | - | 128,684 | | 128,684 | - | - | |
| Other direct costs: | | | | | | | |
| Materials and supplies | 990,904 | 632,804 | | 632,804 | 7,110 | - | B-3 |
| Publication costs | 85,675 | 2,154 | | 2,154 | - | - | |
| Consultant services | 69,540 | 27,514 | | 27,514 | - | - | |
| Computer services | 85,675 | 10,079 | | 10,079 | - | - | |
| Subcontracts | 2,310,000 | 1,815,476 | | 1,815,476 | - | - | |
| Other | 966,946 | 966,718 | | 966,718 | 4,797 | - | B-3 |
| Total direct costs | 13,610,240 | 12,887,234 | | 12,887,234 | 59,625 | - | |
| Indirect costs | | | (C) | | | | B-3 |
| Total | \$ | \$ | \$ -0- | \$ | \$ | \$ | |
| Cost sharing | \$ 4,590,487 | \$ 5,685,455 | \$ -0- | \$ 5,685,455 | \$ - | 136,263 | B-3 |

(A) Award budget for the period August 1, 2001 to July 31, 2008.

(B) The total representing NSF funded costs claimed agreed with the expenditures reported on the Federal Cash Transactions Report – Federal Share of Net Disbursements as of the quarter ended June 30, 2007.

(C) U-M claimed indirect costs to NSF based on applying a rate against claimed MTDC for all fiscal years in the audit period.

University of Michigan
National Science Foundation Award No. EEC-9986866
Schedule of Award Costs
Award Period: September 1, 2000 to August 31, 2010
Audit Period: September 1, 2000 to June 30, 2007
Interim

| Cost Category | (A) Approved Budget | (B) Claimed Costs | Adjustments and Reclassifications | Claimed Costs After Adjustments and Reclassifications | Questioned Amount | At Risk | Schedule Reference |
|----------------------------|---------------------------|-------------------------|--------------------------------------|---|----------------------|-------------|-----------------------|
| Direct costs: | | | | | | | |
| Salaries and wages | \$ 6,900,160 | \$ 7,276,727 | \$ | \$ 7,276,727 | \$ 197,246 | - | B-4 |
| Fringe benefits | 1,639,977 | 1,519,897 | | 1,519,897 | 41,214 | - | B-4 |
| Travel | 295,656 | 279,876 | | 279,876 | - | - | |
| Participant support | 247,755 | 251,686 | | 251,686 | 10,570 | - | B-4 |
| Equipment | 524,360 | 21,643 | | 21,643 | - | - | |
| Other direct costs: | | | | | | | |
| Materials and supplies | 1,013,394 | 1,603,068 | | 1,603,068 | 47,176 | - | B-4 |
| Publication costs | 1,650 | 2,316 | | 2,316 | - | - | |
| Consultant services | 81,450 | 18,400 | | 18,400 | - | - | |
| Computer services | 31,966 | 33,094 | | 33,094 | - | - | |
| Subcontracts | 6,606,436 | 5,924,367 | | 5,924,367 | - | - | |
| Other | 2,713,482 | 2,029,718 | | 2,029,718 | - | - | |
| Total direct costs | 20,056,286 | 18,960,792 | | 18,960,792 | 296,206 | - | |
| Indirect costs | | | (C) | | | | B-4 |
| Total | \$ | \$ | \$ -0- | \$ | \$ | \$ - | |
| Cost sharing | \$ 4,826,407 | \$ 8,988,478 | \$ -0- | \$ 8,988,478 | \$ - | \$ (D) | |

(A) Award budget for the period September 1, 2000 to August 31, 2010.

(B) The total representing NSF funded costs claimed agreed with the expenditures reported on the Federal Cash Transactions Report – Federal Share of Net Disbursements as of the quarter ended June 30, 2007.

(C) U-M claimed indirect costs to NSF based on applying a rate against claimed MTDC in FY 2001, 2002, 2003, and 2004. U-M claimed indirect costs to NSF based on applying a rate against claimed in FY 2005 and 2006 and in FY 2007.

Schedule A-4

**University of Michigan
National Science Foundation Award No. EEC-9986866
Schedule of Award Costs
Award Period: September 1, 2000 to August 31, 2010
Audit Period: September 1, 2000 to June 30, 2007
Interim**

(D) U-M claimed \$8,988,478 of cost sharing. We determined that \$8,119 of cost sharing was unallowable as follows:

Four cost sharing transactions totaling \$1,506 and the associated indirect costs (\$████) for a total of \$████ is unallowable because the relationship to the NSF project could not be determined from the documentation provided. U-M claimed indirect costs to NSF based on applying a █████ rate in FY 2007. As a result, based upon \$1,506 of unallowable cost sharing transactions, █████ of indirect costs is considered unallowable (\$1,506 x █████).

In addition, \$5,830 of cost sharing related to a scholarship/fellowship aid transaction is an unallowable charge the awardee stated should not have charged to the award, and thus, no documentation was provided. No indirect costs were claimed against this transaction.

However, since the allowable amount was more than the required amount of cost share, we did not identify any cost share "at-risk" or identify excess Federal costs.

**University of Michigan
National Science Foundation Award No. SES-0094942
Schedule of Questioned Costs
From December 1, 2001 to June 30, 2007**

1. Salaries and Wages

We are questioning \$73,591 of salaries and wages as follows:

- o Six effort reports certified by the employee prior to the end of the applicable reporting period, rather than after-the-fact as required by Federal regulations, totaling \$19,322.
- o One payroll transaction where we were not provided supporting effort reports or timesheets, totaling \$1,505.
- o Nine journal entry transactions which lacked adequate documentation. The journal entries were documenting only the entry itself and not the underlying source documentation to support the charges to the NSF award, totaling \$52,764. The transactions consist of internal service recharges from other departments for salaries charges. Therefore, we are questioning.

2. Fringe Benefits

U-M claimed fringe benefit costs to NSF at a rate of approximately [REDACTED] of claimed salaries and wages. As a result of questioning the above salaries and wages, we are questioning \$13,791. (\$73,591 x [REDACTED])

In addition, we are questioning one fringe benefit charge totaling [REDACTED] relating to an FY 2007 transactions because sufficient information was not provided to allow us to determine whether the costs were reasonable, allowable, and allocable.

3. Computer Services

We are questioning \$137,792 of computer services because six of the sampled transactions lacked adequate documentation. The journal entries only documented the entry itself and did not include the underlying source documentation to support the charges to the NSF award. The transactions consist of internal service recharges from other departments for interviewer/surveyor charges.

4. Other

We are questioning \$456,478 of other costs because nine of the sampled transactions lacked adequate documentation. These journal entries did not include the underlying source documentation to support the charges to the NSF award, but only the entry itself. The transactions consist of internal service recharges from other departments for interviewer/surveyor charges.

5. Indirect Costs

U-M claimed indirect costs to NSF based on applying a [REDACTED] rate against claimed Modified Total Direct Costs (MTDC). As a result, based upon questioning of \$685,097 of salaries and wages, fringe benefits, computer services, and other costs, we are questioning \$ [REDACTED] of indirect costs. (\$685,097 [REDACTED])

**University of Michigan
National Science Foundation Award No. SBE-0123571
Schedule of Questioned Costs
From January 1, 2002 to June 30, 2007**

1. Travel

We are questioning \$637 of travel costs because alcohol charges on a hotel bill are unallowable per OMB Circular A-21.

2. Other Direct Costs

We are questioning in total \$27,468 of other direct costs which consists of the following:

- a) We are questioning \$12,654 of other costs which consists of two transactions. The first transaction, \$6,420, is being questioned because the transaction was without supporting effort reports. The second transaction, \$6,234, was a scholarship/fellowship aid that was charged as a direct cost. This is an unallowable charge the awardee stated should not have been charged to the award and thus, documentation was not provided.
- b) We are questioning \$14,814 of other costs because the journal entry itself was provided as support and did not include any of the underlying source documentation to support the charge to the NSF award.

3. Indirect Costs

U-M claimed indirect costs to NSF based on applying a [REDACTED] rate against claimed MTDC in FY 2002, FY 2003, FY 2004, and FY 2005 and [REDACTED] rate in FY 2006. As a result, based upon questioning of \$21,871 of travel and other direct costs (excluding scholarship/fellowship aid), we are questioning \$11,302 of indirect costs. [(\$14,814 x [REDACTED]) + (\$7,057 x [REDACTED])]. Indirect costs were not claimed against the \$6,234 of scholarship/fellowship aid costs and were excluded from our calculation of questioned indirect costs.

**University of Michigan
National Science Foundation Award No. PHY-0114336
Schedule of Questioned Costs
From August 1, 2001 to June 30, 2007**

1. Salaries and Wages

We are questioning costs associated with six transactions where the salaries and wages were without effort reports or timesheets, or other related documentation, which totaled to \$35,847.

2. Fringe Benefits

U-M claimed fringe benefit costs to NSF at a rate of approximately [REDACTED] of claimed salaries and wages. As a result of questioning the above salaries and wages, we are questioning \$8,671. ($\$35,847 \times$ [REDACTED])

3. Travel

We are questioning \$3,200 of travel expenses claimed because the cost claimed is in violation of the University policy and in excess of the Federal Travel Regulation. This amount was a payment made to a foreign visitor to Ann Arbor at \$100/day for meals and no receipts were provided.

4. Material and Supplies

We are questioning \$7,110 of materials and supplies related to a purchase card transaction without adequate documentation for a portion of the charges for laboratory supplies.

5. Other Direct Costs

We are questioning \$4,797 of other costs related to a scholarship/fellowship aid transaction that was charged as a direct cost. This is an unallowable charge the awardee stated should not have been charged to the award, and thus provided no documentation.

6. Indirect Costs

U-M claimed indirect costs to NSF based on applying a [REDACTED] rate against claimed MTDC. As a result, based upon questioning of \$54,828 of salaries and wages, fringe benefits, travel, and materials and supplies, we are questioning [REDACTED] of indirect costs. ($\$54,828 \times$ [REDACTED]). Indirect costs were not claimed against the \$4,797 of scholarship/fellowship aid costs and were excluded from our calculation of questioned indirect costs.

7. Cost Share

The \$136,263 of cost sharing "at risk" represents the cost sharing necessary to comply with the award budget. "At risk" cost sharing is the amount of required cost sharing that has not been met at the time of the audit, but which the awardee still has time to meet before the end of award period. The amount is calculated as follows:

**University of Michigan
National Science Foundation Award No. PHY-0114336
Schedule of Questioned Costs
From August 1, 2001 to June 30, 2007**

| | |
|---|--------------------|
| Cost sharing required | \$ 4,590,487 |
| Cost sharing claimed | 5,685,455 |
| Less: Unsupported cost share | <u>(1,231,231)</u> |
| Cost sharing allowed | <u>4,454,224</u> |
| Difference between cost sharing required and allowed | \$ <u>136,263</u> |

The unsupported cost sharing amounts are based on the following:

Two cost sharing transactions totaling \$1,462 and the associated indirect costs [REDACTED] for a total of \$2,208 is "at risk" because the relationship to the NSF project could not be determined from the documentation provided. U-M claimed indirect costs to NSF based on applying a [REDACTED] rate. As a result, based upon "at risk" of \$1,462 of cost sharing transactions we are considering \$746 of indirect costs as "at risk". (\$1,462 [REDACTED])

One cost sharing transaction which consists of a lump sum entry to move equipment fabrication charges from one project to the cost sharing account related to award PHY-0114336. The cost share transfer was recorded in FY 2007 for expenses incurred from July 1998 to October 2006, according to the journal entry description. There was no underlying source documentation to support the details of the equipment nor the relationship to the NSF project; therefore the full amount of the transaction, totaling \$1,229,023, is unsupported. No indirect costs were claimed against this transaction.

**University of Michigan
National Science Foundation Award No. EEC-9986866
Schedule of Questioned Costs
From September 1, 2000 to June 30, 2007**

1. Salaries and Wages and Fringe Benefits

We are questioning a total of \$197,246 of salaries and wages costs as follows:

- Thirty-one effort reports totaling \$52,380 which were certified by the employee prior to the end of the applicable reporting period, rather than after-the-fact as required by Federal regulations.
- Eighteen samples where the salaries and wages were without supporting effort reports or timesheets, which totaled to \$123,783.
- Salaries totaling \$21,083 charged to the award applicable to periods two months after the employee was terminated and therefore was not chargeable to the award.

2. Fringe Benefits

U-M claimed fringe benefit costs to NSF at a rate of approximately [REDACTED] of claimed salaries and wages. As a result of questioning the above salaries and wages, we are questioning [REDACTED] (\$197,246 x [REDACTED]).

In addition, one fringe benefit charge totaling \$15 relating to FY 2007 transactions is being questioned because sufficient information was not provided to allow us to determine whether the costs were reasonable, allowable, and allocable.

3. Participant Support

We are questioning \$10,570 of participant support because U-M could not provide adequate documentation to support the costs claimed for one transaction.

4. Material and Supplies

We are questioning \$ [REDACTED] of materials and supplies for the following reasons:

1. There was a lack of adequate documentation for 3 sampled transactions related to researchers supplies and services. The questioned amount for these transactions was \$ [REDACTED].
2. There was one transaction in the amount of \$40 for which U-M was not able to provide sufficient information and we were not able to determine whether the costs were reasonable, allowable, and allocable.

5. Indirect Costs

U-M claimed indirect costs to NSF based on applying a [REDACTED] rate against claimed MTDC in 2001, 2002, 2003, and 2004; [REDACTED] rate in 2005 and 2006; and [REDACTED] in 2007. As a result, based upon questioning of \$285,636 of salaries and wages, fringe benefits and materials and supplies, we are questioning [REDACTED] of indirect costs. [(\$54,308 x [REDACTED]) + (\$25,542 x [REDACTED]) + (\$205,786 x [REDACTED])]. Indirect costs were not claimed against the \$10,570 of participant support costs or the \$5,830 of scholarship/fellowship aid costs, and were excluded from our calculation of questioned indirect costs.

**University of Michigan
National Science Foundation Awards
Summary Schedule of Awards Audited and Audit Results
From September 1, 2000 to June 30, 2007**

Summary of Awards Audited

| Award Number | Award Period | Audit Period |
|--------------|----------------------|----------------------|
| SES-0094942 | 12/01/01 to 11/30/07 | 12/01/01 to 06/30/07 |
| SBE-0123571 | 01/01/02 to 12/31/07 | 01/01/02 to 06/30/07 |
| PHY-0114336 | 08/01/01 to 07/31/08 | 08/01/01 to 06/30/07 |
| EEC-9986866 | 09/01/00 to 08/31/10 | 09/01/00 to 06/30/07 |

Summary of Questioned and Unresolved Costs

| NSF Award Number | Award Budget | Claimed Costs | NSF Questioned Costs | At Risk Cost Sharing | Unresolved Costs | Unsupported Costs |
|------------------|---------------|---------------|----------------------|----------------------|-------------------|---------------------|
| SES-0094942 | \$ 14,373,803 | \$ 12,456,571 | \$ 1,034,497 | \$ -0- | \$ -0- | \$ 1,034,497 |
| SBE-0123571 | 3,946,508 | 3,775,840 | 39,407 | -0- | 7,196 | 32,211 |
| PHY-0114336 | 17,975,920 | 16,887,069 | 87,587 | 136,263 | 9,629 | 77,958 |
| EEC-9986866 | 25,419,401 | 24,588,564 | 443,222 | -0- | 134,355 | 308,867 |
| Total | | | \$ 1,604,713 | \$ 136,263 | \$ 151,180 | \$ 1,453,533 |

**University of Michigan
National Science Foundation Awards
Summary Schedule of Awards Audited and Audit Results
From September 1, 2000 to June 30, 2007**

Summary of NSF Questioned Costs by Explanation

| Condition | Questioned Cost Amount | Internal Control Finding | Noncompliance Finding |
|--|---------------------------|--------------------------------|--------------------------|
| Salary and wages transactions were without effort reports or timesheets. | \$ 161,135 | X | X |
| Journal entries documented only the entry itself and not the underlying source documentation to support the charges to NSF. | 661,848 | X | X |
| Purchase card transaction lacked adequate documentation for a portion of the charges for laboratory supplies. | 7,110 | | X |
| Other direct cost transactions that could not be determined as reasonable, allowable, and allocable based on the support received. | 67,626 | X | X |
| Effort reports were certified by the employee prior to the end of the applicable reporting period. | 71,702 | X | X |
| Fringe benefit costs based on applying the fringe benefit rate against claimed salaries and wages | ████████ | | |
| Indirect costs based on applying the indirect rate against claimed MTDC | ████████ | | |
| Student scholarship/fellowship aid and stipends were charged as direct costs and the awardee stated that these should not have been charged to the award. | 11,031 | X | |
| Alcohol charged on a hotel bill, which is considered unallowable per OMB Circular A-21. | 637 | | X |
| Salary charged to an award applicable to periods two months after the employee was terminated. | 21,083 | X | X |
| Payments to a foreign visitor to Ann Arbor at \$100/day for meals with no receipts, which is excess of the Federal Travel Regulation and against U-M policies. | 3,200 | | X |
| Total Questioned Costs | \$ ██████████ | | |
| | ████████ | | |

**University of Michigan
National Science Foundation Awards
Summary Schedule of Awards Audited and Audit Results
From September 1, 2000 to June 30, 2007**

Summary of Questioned Cost Sharing by Explanation

| Condition | At Risk Amount | Internal Control Finding | Noncompliance Finding |
|--|----------------|--------------------------|-----------------------|
| Lack of supporting documentation or inadequate documentation | \$ 136,263 | X | X |

Summary of Noncompliance and Internal Control Findings

| Condition | Noncompliance or Internal Control? | Material, Significant, or Other? | Amount of NSF Questioned Costs Affected | Amount of NSF At Risk Cost Share Affected | Amount of Claimed/Incurred Costs Affected |
|--|------------------------------------|----------------------------------|---|---|---|
| Lack of Effective System of Maintaining Source Documentation | Noncompliance and Internal Control | Significant deficiency | \$ 1,418,890 | \$ 136,263 | \$ - |
| Lack of Adequate Centralized Monitoring Control | Noncompliance and Internal Control | Significant deficiency | 55,564 | | |
| Weaknesses in Effort Certification Process | Noncompliance and Internal Control | Significant deficiency | 130,259 | | |
| Lack of Adequate Written Job Descriptions | Internal Control | Significant deficiency | | | |
| Total Questioned and At-Risk Costs | | | \$ 1,604,713 | \$ 136,263 | \$ - |

**University of Michigan
National Science Foundation Awards
Notes to Financial Schedules
From September 1, 2000 to June 30, 2007**

1. Summary of significant accounting policies:

Accounting basis

The accompanying financial schedules have been prepared in conformity with National Science Foundation instructions. Schedules have been prepared from the reports submitted to NSF. The basis of accounting utilized in preparation of these reports differs from accounting principles generally accepted in the United States of America. The following information summarizes these differences:

Financial Statements

A statement of financial position and a statement of cash flows are not required by the National Science Foundation, Office of Inspector General.

Equity

Under the terms of the awards, 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.

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 statement of award costs include the cost of equipment purchased during the period rather than a provision for depreciation.

The equipment acquired is owned by U-M while used in the program for which it was purchased or in other future authorized programs. However, NSF has the reversionary interest in the equipment. Its disposition, as well as the ownership of any proceeds there from, is subject to Federal regulations.

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

U-M is an instrumentality of the State of Michigan and is exempt from income taxes under Section 115 of the Internal Revenue Code.

**University of Michigan
National Science Foundation Awards
Notes to Financial Schedules
From September 1, 2000 to June 30, 2007**

2. NSF cost sharing and matching:

The following represents the cost sharing requirements and actual cost sharing for the period September 1, 2000 to June 30, 2007 on NSF Awards No. SBE-0123571, PHY-0114336, and EEC-9986866.

| Award | Cost Sharing Required | (A) Actual Cost Sharing Claimed | (B) Additional Cost Sharing Not Claimed | (C) Unsupported Cost Share | (A)+(B)-(C) Actual Supported Cost Share | Actual Cost Share Over/(Under) Required |
|--------------|-----------------------|------------------------------------|--|-------------------------------|--|---|
| SBE-0123571 | \$ 1,160,055 | \$ 1,913,794 | \$ - | \$ 44,349 | \$ 1,869,445 | \$ 709,390 |
| PHY-0114336 | 4,590,487 | 5,685,455 | - | 1,231,231 | 4,454,224 | (136,263) |
| EEC-9986866 | 4,826,407 | 8,988,478 | | 8,119 | 8,980,359 | 4,153,952 |
| Total | \$ 10,576,949 | \$ 16,587,727 | \$ - | \$ 1,283,699 | \$ 15,304,028 | \$ 4,727,079 |

The University of Michigan

3089 Wolverine Tower
3003 S. State Street
Ann Arbor, Michigan 48109-1287

SPONSORED PROGRAMS
& GENERAL RECEIVABLES
Financial Operations

(734) 764-8204
Fax (734) 647-1932

July 1, 2009

[REDACTED] CPA, CGFM
WithumSmith+Brown
8403 Colesville Road, Suite 340
Silver Spring, Maryland 20910-6331 USA

Dear [REDACTED]

Per the request from [REDACTED] dated 6/16/09, enclosed for your review is the University of Michigan's updated response to the draft audit report removing all references to Finding #5.

Please contact me directly at [REDACTED] if you are in need of anything further.

Regards,

[REDACTED]
Financial Operations – Sponsored Programs
3089 Wolverine Tower
3003 S. State St.
Ann Arbor, MI 48109-1287

Enclosure

University of Michigan

Response to Independent Auditors' Reports

National Science Foundation Award Numbers

- SES-0094942 – UM F006195
- SBE-0123571 – UM F005509
- PHY-0114336 – UM F004935
- EEC-9986886 – UM F003425

5/13/2009

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Responses to Findings and Recommendations

Finding 1 – Lack of Effective Record Retention System for Maintaining Source Documentation

Recommendation 1:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M:

- Develop policies that define the specific types of source documentation it will maintain for each major category of federal grant cost, consistent with 2 CFR Part 215 (OMB Circulars A-110) and 2 CFR Part 220 (OMB Circular A-21), and NSF guidance; and
- Develop policies and procedures to amend its record retention system to ensure that the documentation U-M considers necessary to support charges made to its NSF grants can be readily retrieved from its record retention system.

Auditee's Response:

We disagree with the finding and corresponding recommendation as stated. The University of Michigan has a document retention policy in place that is compliant with 2 CFR Part 215 (OMB Circulars A-110) and 2 CFR Part 220 (OMB Circular A-21), and NSF guidance. The policy can be found in Appendix A-1.

At this time the University has provided support for every transaction that it claims is allowable to the projects under review. The finding indicates that the audit team is still questioning 69 items as not being properly supported. In fact, the University provided support for each of these transactions and was never advised that any additional information was necessary. In reviewing a schedule, provided by the auditors, of the 69 transactions the University determined the following:

- 41 transactions – original support provided after the audit team's 01/18/08 departure, all documentation provided by 03/04/08 with accompanying e-mail indicating all remaining support had been provided, no follow-up questions received, original support presumed sufficient.
- 27 transactions – original support provided to the auditors while on-site, no questions from the auditors prior to their 01/18/08 departure, no follow-up questions after their departure, original support presumed sufficient.
- 1 transaction – original support provided to the auditors while on-site, related to the questioned cost share transaction totaling \$1,229,023. While there were numerous conversations about this transaction during the time the audit team was on-site, there was no request for additional detail prior to their 01/18/08 departure date, no requests

APPENDIX A - AUDITEE RESPONSE

after their departure and no indication that the documentation provided to them was inadequate. If the audit team had advised the University that additional support was necessary for their review, the University had additional supporting documentation to provide for all of the items included in the transfer.

The finding mentions that it took "...over 10 people more than 250 hours to assemble the documentation to support these selected cost transactions." These totals were inclusive of all the time put forth by University staff from various offices over the course of the multi-month audit cycle including pre-visit, on-site and post-visit follow-up. The substantial amount of activity at the University was reflective of: the sample size, 657 transactions; the amount of preparation/coordination/execution involved in having various audit team members on-site for four weeks; the audit time period of seven fiscal years crossing multiple system and process changes/implementations; and the fact that the audit team had little to no prior experience in University audits.

Finally, the support documentation provided to the audit team was consistent with the types of support provided for other NSF reviews (annual FCTR and site visit) as well as numerous other federal audits and the University's annual A-133 audit.

Finding 2 – Lack of Adequate Centralized Monitoring Control

Recommendation 2:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M develop and implement procedures to ensure the Office of Sponsored Programs performs a comprehensive review of NSF award charges, with the use of supporting documentation, on at least an annual basis instead of only at grant closeout.

Auditee's Response:

We disagree with the finding and corresponding recommendation as stated. The University has the necessary policies and procedures in place to insure appropriate fiduciary stewardship of NSF awards. The responsibility for fiscal monitoring is handled at multiple levels in the organization and is documented in the University policy on fiscal responsibilities which can be found in Appendix B-1. In short, there are various levels of review at the central office and departmental level.

The Office of Sponsored Programs (central office) reviews and approves transactions on a risk assessment basis (equipment purchases, foreign travel, consulting, cost transfers, budget creation/modification). It also processes invoices/collections, letter of credit draws, financial reports; completes system closeout of awards; reviews federal projects for A-21 costing compliance; and provides customer service to Principal Investigators and their unit based administrative support staff.

Per the University's policy on fiscal responsibility, detective controls are a requirement of unit based individuals who participate in award oversight (Project Directors, Administrators, Deans/Directors/Department Chairs). The role played by the Office of Sponsored Programs in relation to detective controls is supportive of the unit efforts. Final review of project costs at award/system closeout by the Office of Sponsored Programs insures that all required policies/procedures have been followed/documented.

With regard to the specific audit findings, the University acknowledges that the charges incurred as student compensation were initiated contrary to University policy. The students did, in fact, work on the projects but the mechanism of payment was erroneous. This would have been discovered at the time of review by the central office and would have been corrected before the final expenditures were reported.

The alcohol charges of \$637 and associated indirect costs of [REDACTED] that were discovered were removed immediately from the project upon discovery.

APPENDIX A - AUDITEE RESPONSE

The salaries of \$21,083, related benefits of [REDACTED] and indirect costs of [REDACTED] were an erroneous payroll adjustment that occurred in October, 2006. These charges were reversed in November, 2006 as part of the detective controls in place at the University. It should be noted that the terminated individual did not receive any additional funds as a result of this adjustment and reversal. At the time the review was performed, both the charge and reversal had already taken place.

While the University's travel policy allows for actual and reasonable expenditures and does not require receipts for any non-lodging expenditure under \$75 in accordance with Internal Revenue Service standards, the University agrees to remove the meal costs of \$3,200 and indirect costs of [REDACTED] as stated in the finding.

The number of instances where this review of NSF projects results in the discovery of unallowable costs not caught by other preventive and detective controls is infrequent and immaterial. As noted above, out of the 657 transactions that were reviewed by the auditors on four awards that totaled approximately \$74 million, only one of them contained an unallowable cost of \$962 and one other contained a questionable cost of \$4,832.

The University continues to assess the risk of its monitoring process, both centrally and at the departmental level. Going forward, the University will continue to work with the departmental administrators to ensure that their review is done in accordance with the standards as stated in University policy. It is our opinion that the University should not change the frequency of its central monitoring process based on the findings of this review.

Finding 3 – Lack of Procedures for Monitoring and Enforcing Labor Certification and Effort Reporting Policies

Recommendation 3:

We recommend that NSF's Director of the Division of Institution and Award Support ensure that U-M develop and implement procedures to monitor and enforce the University's labor certification and effort reporting policies, including the development of procedures for follow-up on reports not certified properly.

Auditee's Response:

We disagree with the finding and corresponding recommendation as stated. The University has the necessary policies and procedures in place to monitor and enforce the University's labor certification and effort reporting policies. These policies are compliant with 2 CFR Part 220 (OMB Circular A-21, Cost Principles for Educational Institutions,) and can be found in Appendix C-1.

The auditors' recommendation is based on the assumption that certification must be performed on an "after-the-fact" methodology. OMB Circular A-21 allows for other allowable options for the certification process. The University utilizes the Plan Confirmation method for payroll distribution as stated in OMB Circular A-21 J.10.c.(1). Section J.10.c.(1).(e). states that "At least annually a statement will be signed by the employee, principal investigator, or responsible official(s) using suitable means that the work was performed.....". This process had been audited and reviewed by the University's internal audit department, external A-133 auditors, the DHHS Division of Cost Allocation as part of the indirect cost negotiations, and by numerous Federal agencies through the course of various audits. While this was explained to the auditors numerous times, there appeared to be a lack of understanding of the process and requirements of Circular A-21 concerning this matter.

Finding 4 – Lack of Written Job Description for a Key Position Related to an NSF Program

Recommendation 4:

We recommend that NSF’s Director of the Division of Institution and Award Support ensures that U-M develop written job descriptions for key management positions relating to NSF awards.

Auditee’s Response:

We disagree with the finding and corresponding recommendation as stated. The job description for the Director of the FOCUS program was included in the proposal submitted to NSF and can be found in Appendix D-1. It clearly stated the responsibilities of the position and also indicated that the Director would be appointed by the participating Deans and faculty of the Center. It also stated that the Directors would alternate between the two participating schools – Literature Science, and The Arts, and the College of Engineering. The proposal also stated that the Director would change after serving two years. This was accepted by NSF.

Due to the complexity of establishing the Center, the original Director stayed on for the first five year period. After the first five year period, the Director was rotated as proposed. The Directors alternated between the two schools as proposed. Dr. Christopher Monroe replaced Dr. Philip Bucksbaum in March, 2006. He was subsequently replaced by Dr. Georg Raitel in January, 2008. The changes in Directors were submitted to NSF for their approval per their guidelines. These proposed changes were approved by NSF in both instances and can be found in Appendix D-1.

The finding also states that the University requires job descriptions. While this is in essence a true statement, the position of the Director of the FOCUS program is part of the overall appointment of the participating faculty member. It is not a separate appointment. The faculty member appointed is fully aware of the responsibilities of the position. As mentioned previously, the Deans of the respective schools and the faculty are involved in the determination of the Director in accordance with the process stated in the proposal.