




National Science Foundation • Office of Inspector General
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MEMORANDUM

Date: March 19, 2015

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

Karen Tiplady, Director
Division of Grants and Agreements

From: Dr. Brett M. Baker 
Assistant Inspector General for Audit

Subject: Audit Report No. 15-1-003
Michigan State University

This memo transmits WithumSmith+Brown's (WSB) report for the audit of costs totaling \$235 million charged by Michigan State University (MSU) to its sponsored agreements with NSF during the period January 1, 2010 through December 31, 2012. The objectives of the audit were to (1) identify and report on instances of unallowable, unallocable, and unreasonable costs from the transactions tested; (2) to identify and report on instances of noncompliance with regulations, federal financial assistance requirements, and provisions of the NSF award agreements as they relate to the transactions tested; and (3) determine the reasonableness, accuracy, and timeliness of the awardee's ARRA quarterly reporting, including reporting of jobs created under ARRA and grant expenditures for the most recent quarters.

The auditors determined that costs MSU charged to its NSF sponsored agreements did not always comply with applicable Federal requirements. Specifically, the auditors questioned \$913,210 in senior personnel salary that exceeded NSF's two-month limit.

The auditors also found that MSU properly accounted for and segregated NSF ARRA funded awards in its accounting system. Additionally, MSU's ARRA reports were reasonable, accurate, and timely. For the quarters ending September 30, 2012 and December 31, 2012, expenditures and jobs creation were verified without exception. However, the auditors found that \$12,613 in unallowable costs (of the \$913,210 in total questioned costs) were charged to 6 ARRA awards with expenditures related to senior personnel exceeding the NSF two-month salary limit.

The auditors recommended that NSF address the finding by requiring MSU to resolve the questioned costs of \$913,210 and strengthen administrative and management processes and controls. MSU did not agree with the finding and recommendations. MSU's response, described in the report, is included in its entirety in Appendix A.

Appendices C and D contain summaries of the unallowable items that were questioned. Additional information concerning the questioned items was provided separately by the OIG to the Division of Institution and Award Support, Cost Analysis and Audit Resolution Branch. Please coordinate with our office during the six month resolution period, as specified by OMB Circular A-50, to develop a mutually agreeable resolution of the audit findings. Also, the findings should not be closed until NSF determines that all recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

OIG Oversight of Audit

To fulfill our responsibilities under generally accepted government auditing standards, the Office of Inspector General:

- Reviewed WSB's approach and planning of the audit;
- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the audit at key points;
- Coordinated periodic meetings with WSB officials, as necessary, to discuss audit progress, findings, and recommendations;
- Reviewed the audit report, prepared by WSB to ensure compliance with generally accepted government auditing standards; and
- Coordinated issuance of the audit report.

WSB is responsible for the attached auditor's report on MSU and the conclusions expressed in the report. We do not express any opinion on the conclusions presented in WSB's audit report.

We thank your staff for the assistance that was extended to our auditors during this audit. If you have any questions regarding this report, please contact Louise Nelson at 303-844-4689 or Ken Lish at 303-844-4738.

Attachment

cc: Alex Wynnyk, Branch Chief, CAAR
Michael Van Woert, Executive Officer, NSB
Ruth David, Audit & Oversight Committee Chairperson, NSB
Rochelle Ray, Team Leader, BFA/ DIAS

**Michigan State University
Audit of Incurred Costs for
National Science Foundation Awards
For the Period January 1, 2010 to December 31, 2012**

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ACRONYMS

AAG	Award & Administrative Guide
ARRA	American Reinvestment and Recovery Act of 2009
CFR	Code of Federal Regulation
DIAS	Division of Institution and Award Support
FAQ	Frequently Asked Questions
FFR	Federal Financial Report
MSU	Michigan State University
NSF	National Science Foundation
OIG	Office of Inspector General
OMB	Office of Management and Budget



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Independent Auditors' Report

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950 (P.L. 810-507). Its mission is "to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense." The Foundation is also committed to ensuring an adequate supply of the Nation's scientists, engineers, and science educators. NSF funds research and education in science and engineering by awarding grants and contracts to educational and research institutions in all parts of the United States. Through grants, cooperative agreements, and contracts, NSF enters into relationships with non-Federal organizations to fund research education initiatives and assist in supporting internal program operations. Michigan State University (MSU) is an NSF grant recipient.

Michigan State University is traditionally known for their strong academic disciplines, professional programs, and its liberal arts foundation. As a public, research-intensive, land-grant university funded in part by the State of Michigan, their mission is to advance knowledge and transform lives by providing education to qualified students.

The University generated \$507 million for research programs in fiscal year 2012, ranking 36th in the nation, according to the National Science Foundation. Each year, the university receives thousands of awards to conduct research from an ever-expanding base of sponsors. Because MSU is one of the largest recipients of NSF award dollars, NSF-OIG selected the University for audit.

WithumSmith+Brown, under contract with the NSF-OIG, audited the costs claimed by MSU to NSF for the period beginning January 1, 2010 and ending December 31, 2012. Our audit objectives were to: (1) identify and report on instances of unallowable, unallocable, and unreasonable costs; (2) identify and report on instances of noncompliance with regulations, Federal financial assistance requirements, and the provisions of the NSF award agreements related to the transactions selected; and to (3) determine the reasonableness, accuracy and timeliness of the awardee's American Reinvestment and Recovery Act of 2009 (ARRA) quarterly reporting, including reporting the jobs created under ARRA and grant expenditures for the two most recent quarters.

We conducted this performance audit in accordance with generally accepted government auditing standards which require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our objectives, scope, methodology, and criteria are more fully detailed in Appendix B.

Results in Brief

To aid in determining reasonableness, allowability, and allocability of costs, we obtained from NSF all awards for which costs were reported to NSF during the period of January 1, 2010, through December 31, 2012. This provided an audit universe of approximately \$218 million, in more than 232,000 transactions, across 612 individual NSF awards.

Of the \$218 million in the universe, our audit questioned \$913,210 of costs claimed on 63 NSF awards, which consisted of \$490,751 in senior personnel salary, applicable fringe benefits of \$122,685 and indirect costs of \$299,774 that exceeded NSF's two-month limit because MSU did not comply with NSF award requirements. These questioned costs resulted in an area identified where MSU's controls could be improved to ensure compliance with laws and regulations.

The universe of NSF ARRA-funded awards included approximately \$14 million, in more than 18,000 transactions, across 36 NSF awards. Our review found that MSU properly accounted for and segregated NSF ARRA-funded awards in the accounting system. Additionally, the ARRA reports were reasonable, accurate, and timely. For the quarters ending September 30, 2012 and December 31, 2012, expenditures and jobs creation were verified without exception. The allowability of costs reported for these awards were tested in conjunction with the other NSF awards. We did note \$12,613 questioned in 6 ARRA awards with expenditures related to senior personnel that exceeded the two-month NSF salary limit.

MSU reviewed the facts for the \$913,210 in questioned costs for exceeding NSF limits on senior salary. The University indicated that they had budgetary authority and were operating in accordance with the NSF Questions and Answers document titled "Re-budget Authority by NSF" to justify the overages of the senior personnel salary that exceeded NSF's two-month limit. The finding is outlined in our report and presented by award in Appendix C.

Finding and Recommendations

Finding 1 – Exceeded NSF Limits on Senior Salary

Our review of the accounting and reporting of NSF senior salary costs revealed that MSU does not adequately track/monitor senior personnel costs relative to the NSF two-month salary limit. Our review identified senior personnel whose salary exceeded the NSF two-month salary limit.

Per NSF grant terms and conditions, grantees are fully responsible for the adherence to NSF policies. One such condition relates to senior personnel. Per NSF Award & Administrative Guide (AAG), Chapter V, Allowability of Cost, Section 1, Salaries, Wages, and Fringe Benefits, "NSF normally limits salary compensation for senior project personnel on awards made by the Foundation, to no more than two months of their regular salary in any one year. This limit includes salary received from all NSF funded grants...any *compensation for such personnel in excess of two months must be disclosed in the proposal budget, justified in the budget justification, and must be specifically approved by NSF in the award notice.*"

Using data analytics, we extracted employees appearing to exceed the two-month NSF senior salary limitation. We provided the list of potential salary overcharges to MSU for review. MSU reviewed and corrected the designation as senior, months approved, and the salary rates as necessary. After completing their review, MSU provided a final list of individuals exceeding the two-month limit totaling \$490,751, excluding applicable fringe benefits and overhead (see Appendix C for detail by award).

Salary	Fringe Benefits	Overhead	Total Questioned
\$ 490,751	\$ [REDACTED]	\$ [REDACTED]	\$ 913,210

The following schedule shows the breakout of questioned costs by the number of months in excess of the NSF senior salary policy (see Appendix D for detail by instance).

Unallowable Months	Instances Over	Salary	Fringe Benefit	Overhead	Total Over
0 – 0.9	52	\$ 169,010	\$ [REDACTED]	\$ [REDACTED]	\$ 310,383
1 – 1.9	4	\$ 99,428	\$ [REDACTED]	\$ [REDACTED]	\$ 184,344
2 – 2.9	1	\$ 25,793	\$ [REDACTED]	\$ [REDACTED]	\$ 48,684
3 – 3.9	3	\$ 108,926	\$ [REDACTED]	\$ [REDACTED]	\$ 204,466
4 – 4.9	1	\$ 40,473	\$ [REDACTED]	\$ [REDACTED]	\$ 76,393
5 – 5.9	1	\$ 17,121	\$ [REDACTED]	\$ [REDACTED]	\$ 32,316
8	1	\$ 30,000	\$ [REDACTED]	\$ [REDACTED]	\$ 56,624
	63	\$ 490,751	\$ [REDACTED]	\$ [REDACTED]	\$ 913,210

The final list of individuals confirmed by MSU was examined, and the facts were verified with the award documentation and salary support.

These overcharges were due to a lack of effective monitoring caused by an over-reliance on rebudgeting authority. As a result, \$913,210 in salary, fringe benefits and overhead on 63 NSF awards is questioned. Had MSU effectively monitored their senior personnel salary costs, these overcharges would not have occurred. Without a process in place to ensure that senior personnel do not exceed the NSF two-month limit, there is the increased risk that funds may not be spent in accordance with NSF requirements.

MSU relied on an informal November 2010 Frequently Asked Questions (FAQ) document on Proposal Preparation and Award Administration which states, NSF did not “change the terms and conditions or any of our post-award prior approval requirements. Therefore, under the normal rebudgeting authority, an awardee could internally approve an increase of salary after an award is made,” However, the FAQ document is non-authoritative and contradicts the NSF requirement per the AAG which was in effect during the audit period. Therefore, we question the \$913,210 in overcharges that NSF did not approve.

MSU’s administrative and management controls were not adequately designed to facilitate monitoring of senior personnel salary limits which resulted in questioned costs.

Recommendation 1:

We recommend that the NSF’s Director of the Division of Institution and Award Support (DIAS) address and resolve the following MSU recommendations:

- a. Work with NSF to resolve the \$913,210 of questioned costs; and
- b. Strengthen the administrative and management controls and processes for senior personnel to ensure NSF salary limits are not exceeded.

Awardee Response:

MSU states it understands, and has procedures to comply with, the NSF general policy that limits salary compensation for senior project personnel in the proposal to no more than two months, unless additional support is provided. However, MSU believes the questioned costs in this finding are related to post-award, specifically effort that was not anticipated in the proposal phase, but necessary after the award was

issued. MSU states that the NSF Proposal & Award Policies & Procedures Guide (PAPPG) that went into effect December 26, 2014 should be viewed as a major subsequent event with direct relevance to this audit. MSU further states they are in full compliance with NSF's policies regarding budgeting and re-budgeting of senior personnel project salary. NSF's incorporation of the Frequently Asked Questions (FAQ) information into the latest PAPPG suggests that MSU accurately interpreted the intent of the FAQ. Given MSU's compliance with the intent of NSF's two month salary policy, as evidenced by the small proportion of salaries questioned (approximately 1%), with no indication these changes resulted in any change of scope, and the clear written language regarding budget revisions in the PAPPG and in the NSF FAQ's, the finding is not warranted and should be removed. (See Appendix A for the complete awardee response.)

Auditor Comments:

Although MSU agreed that these individuals' salaries exceeded the NSF approved salary limit, their reliance on rebudgeting authority resulted in the questioned costs. MSU interpreted the November 2010 Frequently Asked Questions (FAQ) on Proposal Preparation and Award Administration which states, NSF did not "change the terms and conditions or any of our post-award prior approval requirements. Therefore, under the normal rebudgeting authority, an awardee could internally approve an increase of salary after an award is made," to mean the two-month salary limit on senior personnel could be disregarded post award. However, the FAQ made no mention of the ability to disregard or violate the NSF Award & Administrative Guide (AAG) and rebudget authority does not apply. Furthermore, informal communication in a FAQ does not supersede the official policy per the AAG. In addition, MSU references the relevance of the PAPPG that went into effect December 26, 2014. It should be noted that this PAPPG is not a retroactive document, and, as a result, is not applicable to the audit period. Therefore, the report finding remains as previously stated.

William Smith + Brown, PC

February 9, 2015

APPENDICES

AWARDEE RESPONSE

MICHIGAN STATE
UNIVERSITY

February 9, 2015

MSU Response to the NSF audit of incurred costs for period 1/1/2010-12/31/2012:

MSU is committed to compliance with federal and agency regulations, and we disagree with the finding related to exceeding NSF limits on salary for senior personnel.

MSU understands, and has procedures to comply with, the NSF policy that limits salary compensation for senior project personnel in a proposal to no more than two months, unless additional support is provided. However, the questioned costs in this finding are related to post-award, specifically effort that was not anticipated in the proposal phase, but necessary after the award was issued.

The NSF Award and Administrative Guide (AAG) Chapter II and V, and the NSF Proposal & Award Policies & Procedures Guide (PAPPG) Chapter II, provides instructions for when NSF approval is required when changes to a grant budget occur. Although this section includes instructions for budget change(s) of importance to NSF, it does not include a requirement for NSF approval of increases to salary for senior project personnel, unless the increase results in a change to the project scope. In addition, the NSF policy office, through 2010 Frequently Asked Questions (FAQ's), clarified that grantees have the authority to rebudget such changes without NSF approval. The NSF Policy office further clarified their position and the importance of the FAQ related to changes of senior project personnel salary post-award in the most recent version of the PAPPG. The specific language related to senior personnel salaries is as follows:

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"Under normal rebudgeting authority, as described in AAG Chapters II and V, an awardee can internally approve an increase or decrease in person months devoted to the project after an award is made, even if doing so results in salary support for senior personnel exceeding the two month salary policy. No prior approval from NSF is necessary as long as that change would not cause the objective or scope of the project to change. NSF prior approval is necessary if the objective or scope of the project changes."

The PAPPG text referenced above that went into effect December 26, 2014, should be viewed as a major subsequent event with direct relevance to this audit. MSU is in full compliance with NSF's policies regarding budgeting and re-budgeting of senior personnel project salary. NSF's incorporation of the FAQ information into the latest PAPPG suggests that MSU accurately interpreted the intent of the FAQ. Given MSU's compliance with the intent of NSF's two month salary policy, as evidenced by the small proportion of salaries questioned (approximately 1%), with no indication these changes resulted in any change of scope, and the clear written language regarding budget revisions in the PAPPG and in the NSF FAQ's, the finding is not warranted and should be removed.

MSU is an affirmative-action,
Equal-opportunity employer

OBJECTIVES, SCOPE, AND METHODOLOGY

Our audit included assessing the allowability, allocability and reasonableness of costs claimed by MSU on the quarterly Federal Financial Reports (FFR) for the three-year period beginning January 1, 2010 through December 31, 2012. We also reviewed the accuracy, reasonableness, and timeliness of MSU's ARRA reporting.

The audit was performed in accordance with *Government Auditing Standards* for performance audits. The audit objectives were to:

1. Identify and report on instances of unallowable, unallocable, and unreasonable costs from the transactions tested;
2. Identify and report on instances of noncompliance with regulations, Federal financial assistance requirements (e.g. Office of Management and Budget (OMB) Circulars), and the provisions of the NSF award agreements as relates to the transactions tested; and
3. Determine the reasonableness, accuracy, and timeliness of the awardee's ARRA quarterly reporting, including reporting of jobs created under ARRA and grant expenditures for the two most recent quarters.

To accomplish our objectives, we assessed the reasonableness, accuracy, and timeliness of the awardee's ARRA quarterly reporting, including reporting of jobs created under ARRA and grant expenditures for the two most recent quarters, by (1) recomputing the number of jobs created or retained in compliance with OMB Memorandum M-10-08, *Updated Guidance on the American Recovery and Reinvestment Act – Data Quality, Non-Reporting Recipients, and Reporting of Job Estimates*; (2) reconciling expenditures per the general ledger to the ARRA expenditures; and (3) reviewing the ARRA reporting submission dates.

To aid in determining reasonableness, allowability, and allocability of costs, we obtained from NSF all awards for which costs were reported to NSF during the period of January 1, 2010, through December 31, 2012. This provided an audit universe of approximately \$218 million, in more than 232,000 transactions, across 612 individual NSF awards. The universe of NSF ARRA-funded awards included approximately \$14 million, in more than 18,000 transactions, across 36 NSF awards.

Our work required reliance on computer-processed data obtained from MSU and the NSF OIG. At our request, MSU provided detailed transaction data for all costs charged to NSF awards during our audit period. We obtained data directly from the NSF OIG which was collected by directly accessing NSF's various data systems. To select transactions for further review, we designed and performed automated tests of MSU and NSF data to identify areas of risk and conducted detailed reviews of transactions in those areas.

We assessed the reliability of the data provided by MSU by: (1) comparing costs charged to NSF award accounts within MSU's accounting records to reported net expenditures, as reflected in MSU's quarterly financial reports submitted to NSF for the corresponding periods; (2) performing general ledger to sub-ledger reconciliations of accounting data; and (3) reviewing and testing the parameters MSU used to extract transaction data from its accounting records and systems.

Based on our testing, we found MSU's computer-processed data sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or controls over, NSF's databases were accurate or reliable; however the independent auditors' report on NSF's financial statements for fiscal

OBJECTIVES, SCOPE, AND METHODOLOGY

years 2010 and 2011 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

In assessing the allowability of costs reported to NSF by MSU, we also gained an understanding of the internal controls structure applicable to the scope of this audit through interviews with MSU staff, review of policies and procedures, and conducting walkthroughs as applicable and reviews.

We assessed MSU's compliance with the University's internal policies and procedures, as well as the following:

- Government Auditing Standards (2011 version);
- Public Law 111-5, *American Recovery and Reinvestment Act of 2009*;
- OMB Circular A-21, *Cost Principles for Educational Institutions* (2 C.F.R., Part 220);
- OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (2 C.F.R., Part 215);
- OMB Memorandum M-10-08, *Updated Guidance on the American Recovery and Reinvestment Act – Data Quality, Non-Reporting Recipients, and Reporting of Job Estimates*;
- NSF Proposal and Award Policies and Procedures Guide, Part II: Award and Administration Guide
- NSF Award Specific Terms and Conditions; and
- NSF Federal Demonstration Partnership Terms and Conditions.

The remaining attachments contain non-public material and are not posted.