




National Science Foundation • Office of Inspector General  
4201 Wilson Boulevard, Suite I-1135, Arlington, Virginia 22230

## MEMORANDUM

Date: September 17, 2015

To: Dale Bell  
Director, Division of Institution and Award Support

Jamie French  
Acting Director, Division of Grants and Agreements

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

Subject: Audit Report No. 15-1-019  
Indiana University

This memo transmits the WithumSmith+Brown (WSB) report for the audit of costs totaling \$104 million charged by Indiana University to its sponsored agreements with NSF during the period April 1, 2010 and ending March 31, 2013. The 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 Recovery and Reinvestment Act of 2009 (ARRA) quarterly reporting, including reporting the jobs created under ARRA and grant expenditures for the two most recent quarters.

The auditors determined that costs Indiana University charged to its NSF sponsored agreements did not always comply with applicable Federal and NSF award requirements. The auditors questioned \$830,008 of costs claimed on 53 NSF awards. Specifically, the auditors noted \$744,458 in senior personnel salary that exceeded NSF's two-month limit; \$47,116 in unreasonable or unallocable expenses; \$22,034 in unreasonable equipment; \$15,983 in unreasonable travel expenses; and \$417 in unallocable immigration fees. These questioned costs resulted in six areas identified where IU controls could be improved to ensure compliance with laws and regulations. These conditions increase the risk that NSF funds will not be available to accomplish necessary project objectives.

The auditors also found that Indiana University properly accounted for and segregated NSF ARRA funded awards in its accounting system. Additionally, Indiana University's ARRA reports were reasonable, accurate, and timely. For the quarters ending December 31, 2012 and March 31, 2013, expenditures and jobs creation were verified without exception. However, the auditors found that \$133,032 in unallowable costs (of the \$830,008 in total questioned costs)

were charged to 6 ARRA awards with \$111,041 in expenditures related to senior personnel that exceeded the two-month NSF salary limit; \$21,791 in unreasonable or unallocable transactions; and \$200 in unreasonable equipment charges.

The auditors recommended that NSF address the findings by requiring Indiana University to work with NSF in resolving the questioned costs of \$830,008 and strengthen Indiana University's administrative and management controls.

Indiana University, in its response dated July 31, 2015, agreed with some of the findings and questioned costs. However, Indiana University disagreed with the salary overcharges because they believe that NSF policy that limits salary compensation for senior project personnel is specifically related to proposal preparation and submission and not post-award administration. In addition, the post-award rebudget authority IU is permitted. Furthermore, they believe NSF policies and subsequent guidance from NSF are clear concerning the charging of senior salary. Indiana University's response is described after the findings and recommendations and is included in its entirety in Appendix A.

Appendix C contains a detailed summary of the unallowable items that were questioned. Additional information concerning the questioned items was provided separately by 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 and NSF 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 Indiana University 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 Billy McCain at 703-292-4989.

Attachment

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



**Indiana University  
Audit of Incurred Costs for  
National Science Foundation Awards  
For the Period April 1, 2010 to March 31, 2013**

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## ACRONYMS

AAG	Award & Administration Guide
ARRA	American Recovery and Reinvestment Act of 2009
CFR	Code of Federal Regulations
DIAS	Division of Institution and Award Support
FAQ	Frequently Asked Questions
FFR	Federal Financial Report
GPG	Grant Proposal Guide
IU	Indiana University
NSF	National Science Foundation
OIG	Office of Inspector General
OMB	Office of Management and Budget
PAPPG	Proposal and Award Policies and Procedures Guide
PI	Principal Investigator
P.L.	Public Law

Two Logan Square, Suite 2001  
Eighteenth and Arch Streets  
Philadelphia, Pennsylvania 19103-2726 USA  
215 546 2140 . fax 215 546 2148  
[www.withum.com](http://www.withum.com)

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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. Indiana University (IU) is an NSF grant recipient.

IU is a multi-campus public research institution whose mission is to provide access to education, as well as academic and cultural programs and student services. In fiscal year 2013, IU received nearly \$452 million in grants for research and other sponsored programs from various sources. Because IU is one of the larger recipients of NSF award dollars, NSF Office of Inspector General (OIG) selected the University for audit.

WithumSmith+Brown, under contract with the NSF-OIG, audited the costs claimed by IU to NSF for the period beginning April 1, 2010 and ending March 31, 2013. 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 (3) determine the reasonableness, accuracy and timeliness of the awardee’s American Recovery and Reinvestment 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 IU all awards for which costs were reported to NSF during the period of April 1, 2010, through March 31, 2013. This provided an audit universe of approximately \$104 million, in more than 184,000 transactions, across 527 individual NSF awards.

Of the \$104 million in the universe, our audit questioned \$830,008 of costs claimed on 53 NSF awards because IU did not comply with federal and NSF award requirements. Specifically, we noted: \$744,458 in senior personnel salary charges that exceeded NSF's two-month limit; \$47,116 in unreasonable or unallocable expenses; \$22,034 in unreasonable equipment; \$15,983 in unreasonable travel expenses; and \$417 in unallocable immigration fees. These questioned costs resulted in six areas identified where IU controls could be improved to ensure compliance with laws and regulations. These conditions increase the risk that NSF funds will not be used as required to accomplish necessary project objectives.

The universe of NSF ARRA-funded awards included approximately \$8.7 million of expenditures, in more than 17,000 transactions, across 29 NSF awards. Our review found that IU 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 December 31, 2012 and March 31, 2013, 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 \$133,032 questioned in 6 ARRA awards: \$111,041 with expenditures related to senior personnel that exceeded the two-month NSF salary limit; \$21,791 in unreasonable or unallocable transactions; and \$200 in unreasonable equipment charges.

IU reviewed and agreed with the facts via email for \$49,372 in questioned costs: (1) \$47,116 in unreasonable or unallocable expenditures; (2) \$200 in unreasonable equipment charges; (3) \$1,639 for unreasonable travel expenses; and (4) \$417 in unallocable immigration fees. The University did not agree with \$780,636 of the questioned costs: (1) \$744,458 in salary charges that exceeded NSF limits on senior salary; (2) \$21,834 in unreasonable equipment; and (3) \$14,344 in other unreasonable travel expenses. The findings are outlined in our report and presented by award in Appendix C. Additional information concerning the questioned items was provided separately by OIG to the Division of Institution and Award Support, Cost Analysis and Audit Resolution Branch.

## Findings and Recommendations

### Finding 1 – Exceeded NSF Limits on Senior Salary

Our review of the accounting and reporting of NSF senior salary costs revealed that IU 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 & Administration 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 IU for review. IU's Office of Research Administration identified and excluded employees that were not senior personnel per the award documentation. IU also reviewed and corrected the salary rates as necessary. After completing their review, IU provided a final list of individuals exceeding the two-month limit totaling \$242,764, excluding applicable fringe benefits and overhead.

Per the Grant Proposal Guide (GPG) Exhibit II-7, senior personnel are defined by NSF as Principal Investigators (PI), Co-PIs, or faculty jointly responsible for the direction of the project. These individuals, identified by IU on the award budget, are the senior personnel responsible for the project and subject to the two-month salary limit. Therefore, the senior project personnel not considered faculty and excluded by IU were included in our calculation. The inclusion increased the total to \$██████████, apart from applicable fringe benefits and overhead (see Appendix C for detail by award).

Salary	Fringe Benefit	Overhead	Total Over
\$ ██████████	██████████	██████████	\$ 744,458

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	19	\$ ██████████	██████████	██████████	\$ 158,356
1 – 1.9	7	\$ ██████████	██████████	██████████	\$ 177,543
2 – 2.9	5	\$ ██████████	██████████	██████████	\$ 241,989
4 – 4.9	1	\$ ██████████	██████████	██████████	\$ 80,645
5 – 5.9	1	\$ ██████████	██████████	██████████	\$ 85,925
	33	\$ ██████████	██████████	██████████	\$ 744,458

The final list of individuals confirmed by IU 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, \$744,458 in salary, fringe benefits and overhead on 40 NSF awards is questioned. Had IU 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. These excess salary costs increase the risk that funds will not be used as required to accomplish other necessary project objectives.

IU relied on an informal November 2010 Frequently Asked Questions (FAQ) document on Proposal Preparation and Award Administration which states "NSF has not changed the terms and conditions or any of our post-award prior approval requirements. Therefore, under the normal rebudgeting authority, an awardee can internally approve an increase of salary after an award is made. No prior approval from NSF is necessary." 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 \$744,458 in overcharges that IU did not obtain NSF approval for as required by the award terms and conditions. IU'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 IU recommendations:

- a. Work with NSF to resolve the \$744,458 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:*

IU does not concur with this finding, totaling \$744,458. Per IU, the NSF policy that limits salary compensation for senior personnel to no more than two months is specifically related to proposal preparation and submission and not post-award administration nor the post-award rebudget authority IU is permitted. The questioned costs identified in this finding are related to post-award administration of the grant, specifically effort that was not anticipated in the proposal phase, but was necessary after the award was issued.

The NSF AAG Chapters II and V, and the NSF Proposal and Award Policies and Procedures Guide (PAPPG) Chapter II provide guidance for situations when NSF prior approval is required for budget changes. Prior approval for increases in senior personnel salary is not included in this guidance. Furthermore, the NSF policy office, through the 2010 FAQs, clarified that grantees have the authority to rebudget senior personnel salary without prior NSF approval so long as the increase does not change the scope of the project.

Additionally, IU believes that there are subsequent events not reflected in the auditor's report with respect to this finding. The NSF has clarified the appropriate interpretation of the two-month rule in the most recent of the NSF PAPPG effective December 26, 2014. The language from the FAQ has now been incorporated into the two-month salary rule to further clarify that recipients may rebudget to charge more than two months' salary without NSF prior approval. In addition, resolution by the NSF of similar audit findings of other institutions supports that rebudgeting could occur without NSF prior approval.

IU believes that it has complied with NSF policies with respect to senior personnel salaries and that this finding is not consistent with NSF policy and related agency guidance in effect during the time of these expenditures.

*Auditor Comments:*

Although IU agreed that these individuals' salaries exceeded the NSF approved salary limit, their reliance on rebudgeting authority resulted in questioned costs based on the official NSF policy applicable during the audit period. IU interpreted the November 2010 FAQ on Proposal Preparation and Award Administration which states, NSF has not "changed the terms and conditions or any of our post-award prior approval requirements. Therefore, under the normal rebudgeting authority, an awardee can 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. The FAQ made no mention of the ability to disregard or violate the NSF AAG. Furthermore, informal communication in a FAQ does not supersede the official policy per the AAG. Therefore, the report finding remains as previously stated.

### Finding 2 - Unreasonable or Unallocable Transactions

We found \$47,116 in unreasonable or unallocable transactions related to four awards which were not in accordance with Title 2 of the Code of Federal Regulations (CFR) Part 220.

According to 2 CFR 220, Appendix A, Section C.4, a "...cost is allocable to a sponsored agreement if it is incurred solely to advance the work under the sponsored agreement.... The recipient institution is responsible for ensuring that costs charged to a sponsored agreement are allowable, allocable, and reasonable under these cost principles." Furthermore, Section C.3 provides that a reasonable cost is one that a "prudent person" would have incurred under similar circumstances.

Our audit noted the following transactions occurring at the end of the award periods that were not purchased solely to advance the work for the sponsored agreement under which they were acquired or were not reasonable given the time remaining on the awards.

- \$21,791 for the purchase of lab supplies on February 28, 2013, the day of award expiration. IU stated that the items were purchased to replenish supplies from the departmental stock that the Principal Investigator (PI) and lab assistants used throughout the course of the award. However, documentation provided did not demonstrate that the supplies replaced were used by the award or that the supplies purchased benefitted the NSF award. The supplies appear to be general materials, purchased with excess funds at the end of the award;
- \$17,977 for the purchase of lab supplies between June 22<sup>nd</sup> and June 30<sup>th</sup>, 2011 on an award that expired on June 30, 2011. The supplies were available for less than 1 percent of the grant life (8 out of 1,156 days). The documentation provided did not demonstrate how the supplies benefitted the award and whether the supplies were used exclusively on the award;
- \$2,689 for the purchase of software on December 20, 2010, with a license term from January 1 through December 31, 2011, on an award that expired on December 31, 2010. The software could not benefit the NSF award as the term of the license did not begin until after the award expiration;
- \$2,387 for the purchase of software on May 23, 2012 on a two-year award that expired May 31, 2012. The software was only available for 1 percent of the grant life (8 out of 730 days); and,
- \$2,272 for the purchase of lab supplies on June 24<sup>th</sup> and June 27<sup>th</sup>, 2011 on an award that expired on June 30, 2011. The supplies were available for less than 1 percent of the grant life (6 out of 1,156 days). IU's explanation did not establish how the supplies benefitted the award and whether the supplies were used exclusively on the award.

Department personnel did not adequately review the expenditures charged to the NSF awards which resulted in unallowable costs. Per IU, it has performed corrective actions to remove all of the \$47,116 in unreasonable or unallocable costs from the awards in question. NSF, during the audit resolution, should ensure that the awards are credited as appropriate.

### Recommendation 2:

We recommend that the NSF's Director of the DIAS address and resolve the following IU recommendations:

- a. Work with NSF to resolve the \$47,116 of questioned costs; and,
- b. Strengthen the administrative and management controls and processes for reviewing and approving expenses charged to NSF awards, especially near the end of the awards. Allocations that cannot be supported and documented using reasonable methods and in reasonable time periods should be charged to a non-sponsored activity or indirect cost, as appropriate.



*Awardee Response:*

IU has removed the identified expenditures and returned \$47,116 to NSF.

*Auditor Comments:*

IU's comments are responsive to the issue noted in this finding. Once NSF determines that the recommendation has been adequately addressed and the \$47,116 in questioned costs have been returned, this finding should be closed.

*Finding 3 – Unreasonable Equipment Charges*

We found that equipment expenses totaling \$22,034 charged to five NSF awards were not necessary or reasonable in accordance with 2 CFR 220.

According to 2 CFR 220, Appendix A, Section C, to be allowable for a federal grant, a cost must be allocable to the federal award and be necessary and reasonable for the administration and performance of the award. Furthermore, Section C.3 provides that a reasonable cost is one that a "prudent person" would have incurred under similar circumstances.

We questioned \$9,982 for purchases of equipment that did not appear to benefit the award or that did not appear necessary for the administration of the award. In some cases, the purchase appears to be general purpose equipment not primarily or exclusively used in the actual conduct of the proposed research:

- \$6,665 for the purchase of a recording system. In a no-cost extension notification, the PI stated that he would be purchasing one recording system for \$6,500. The PI then purchased two recording systems totaling \$13,330, 73 days before award expiration. The purchase of the second recording system does not appear reasonable for the award based on the initial price quoted;
- \$2,418 for the purchase of an Apple computer on January 8, 2011 on a five-year award that expired on February 28, 2011. From the purchase date, the computer would have only been available for 4 percent of the grant life (51 out of 1,181 days). With the limited time remaining on the award, it was not necessary to use a new \$2,418 laptop to record images using a portable USB connected microscope;
- \$699 for the purchase of an iPad on July 27, 2010 on a two-year award that expired August 31, 2010. From the purchase date, the iPad would have only been available for 5 percent of the grant life (35 out of 729 days). On the change of scope request submitted by IU on July 30, 2009, which listed the equipment to be purchased, the need for an iPad was not mentioned; and,
- \$200 for the purchase of a printer, after 92 percent of the award had elapsed, that benefitted the entire lab, and as such, should have been charged to a general fund. IU agreed and indicated that it has removed the charges from the award. NSF, during audit resolution, should ensure that the awards are credited as appropriate.

We questioned \$12,052 for purchases of equipment, charged to one award at the end of the grant, that did not appear to benefit the award or that did not appear necessary for the administration of the award:

- \$5,167 for the purchase of equipment that was shipped on September 22, 2010 on an award that expired on August 31, 2010. The equipment could not benefit the NSF award as it was not shipped until 22 days after award expiration;

- \$4,159 for the purchase of two power supplies ordered on August 20, 2010 on a three-year award that expired on August 31, 2010. The power supplies were only available for 1 percent of the grant life (11 out of 1,095 days); and,
- \$2,726 for the purchase of equipment on August 11, 2010 on a three-year award that expired on August 31, 2010. The equipment was only available for 2 percent of the grant life (20 out of 1,095 days).

Department personnel did not adequately review the equipment charged to the NSF awards which resulted in unreasonable costs. IU indicated that it has performed corrective actions to remove \$200 in unreasonable costs from the awards in question leaving \$21,834 remaining unresolved. NSF, during audit resolution, should ensure that the awards are credited as appropriate.

*Recommendation 3:*

We recommend that the NSF's Director of the DIAS address and resolve the following IU recommendations:

- a. Work with NSF to resolve the \$22,034 of questioned costs; and,
- b. Strengthen the administrative and management controls and processes for reviewing and approving equipment charged to NSF awards, especially near the end of the award. Allocations that cannot be supported and documented using reasonable methods and in reasonable time periods should be charged to a non-sponsored activity or indirect cost as appropriate.

*Awardee Response:*

IU has removed \$200 for the expenditure related to the purchase of the printer; however, with respect to the other costs questioned (\$21,834) IU does not concur. IU believes that these costs were compliant with NSF policy, valid commitments made by the university, reasonable to the awards, and actually benefitted the NSF supported projects to which they were charged.

Additionally, the \$12,052 equipment items were valid commitments made by the university prior to project expiration for equipment that benefitted the NSF supported project. The project subsequently received additional NSF funding through a competing continuation. Per the NSF AAG, Chapter V, Section A.2.c:

*"NSF funds may not be expended subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date. (See AAG Chapter IILE.2.) For example, commitment of project funds is valid when specialized (research) equipment is ordered well in advance of the expiration date but where, due to unusual or unforeseen circumstances, delivery of such equipment is delayed beyond the expiration date. The costs of equipment ordered after the expiration date, however, may not be charged to the project."*

*Auditor Comments:*

IU's comment related to the \$200 printer is responsive to the issue noted in this finding. Once NSF determines that the recommendation has been adequately addressed and the \$200 in questioned costs has been returned, this issue should be closed.

The remaining \$21,834 purchases, given the time remaining on the awards, were not reasonable and did not benefit the various awards to which they were charged. These purchases near the awards ending dates do not represent *specialized equipment ordered well in advance of the award expiration dates*. Also, for the \$699 iPad, newly released in April 2010, no evidence was provided as to how it was used in the field to collect data. Therefore, the finding remains as previously stated.

#### Finding 4 – Unreasonable Travel Expenses

We found \$15,983 in unreasonable travel expenses related to four NSF awards.

According to 2 CFR 220, Appendix A, Section C, to be allowable for a federal grant, a cost must be allocable to the federal award and be necessary and reasonable for the administration and performance of the award. Furthermore, Section C.3 provides that a reasonable cost is one that a “prudent person” would have incurred under similar circumstances.

2 CFR 220, Appendix A, Section C.4 states that a “...cost is allocable to a sponsored agreement if it is incurred solely to advance the work under the sponsored agreement; it benefits both the sponsored agreement and other work of the institution, in proportions that can be approximated through use of reasonable methods.... The recipient institution is responsible for ensuring that costs charged to a sponsored agreement are allowable, allocable, and reasonable under these cost principles.”

We found \$13,821 in unreasonable travel expenses related to two awards where the NSF Program Office required budget reductions. Travel was either not included or eliminated from the budget due to the required funding reductions:

- \$12,944 for various travel expenses related to six transactions. The original NSF award budget included only Post-Doctoral Scholar salaries and fringe benefits. The NSF Program Officer required a budget reduction and the revised budget included only salaries and wages. During our audit period, 10 percent of the award budget was spent on travel. IU stated that, “this travel was not included in the NSF proposal budget because in order to meet the target budget total for this grant, travel could not be included.” Additionally, IU stated that the travel was justified for this award because the grant required that the Investigator communicate findings of the research performed; and,
- \$877 in unreasonable travel expenses related to one award. The original NSF award budget included travel; however, the NSF Program Office required budget reductions and the PI was required to reduce the original budget by 78 percent. The revised budget eliminated the travel. Therefore, it is unreasonable to charge the travel costs after the fact.

We are not questioning the rebudgeting authority of the University. We are questioning whether it was reasonable or prudent for the awardee to claim charges for items specifically requested and subsequently removed from the budget per NSF’s budget reduction request.

During our audit we also noted the following unreasonable travel expenses:

- \$1,639 for lodging overcharges. Per IU, it agreed these were unreasonable travel expenses and has removed the lodging charge from the award;
- \$448 for lodging at a hotel for the PI to attend a conference. Lodging per diem for the city was \$97 per night. For two nights lodging the PI paid \$642. We question \$448 of lodging charges in excess of per diem, as these charges are excessive and unreasonable; and,
- \$75 for a same-day flight change fee. This charge was not necessary and did not benefit the award.

Department personnel did not adequately monitor the travel charged to the NSF awards which resulted in unreasonable costs. Per IU, it has performed corrective actions to remove \$1,639 in unreasonable costs



from the awards in question leaving \$14,344 remaining unresolved. NSF, during audit resolution, should ensure that the awards are credited as appropriate.

*Recommendation 4:*

We recommend that the NSF's Director of the DIAS address and resolve the following IU recommendations:

- a. Work with NSF to resolve the \$15,983 of questioned costs;
- b. Strengthen the administrative and management controls and processes for reviewing and approving travel expenses charged to NSF awards; and,
- c. Strengthen the administrative and management controls and processes for reviewing expenses for travel to determine reasonableness and necessity for the award, especially where travel has been specifically removed or reduced from the budget.

*Awardee Response:*

IU does not concur with the travel expenses totaling \$12,944, \$877, \$448 and \$75.

The finding of \$12,944 was for travel. Throughout the course of the project, the PI was able to realize unexpected salary savings related to hiring a graduate student after difficulties arose in hiring a post-doctoral candidate. These unanticipated salary savings permitted the PI and the graduate student to travel for the purpose of presenting the research work on this project.

The finding of \$877 was for travel. IU contends that the cost is allowable, allocable, reasonable, and permitted as part of its budgeting authority. NSF did not specifically request that travel be removed from the proposal budget nor was travel removed as a result of travel being unreasonable or unallowable on this project. This travel permitted the PI an opportunity to collaborate with other researchers whose area of expertise is directly related to the NSF funded project as well as provide the opportunity for dissemination of research results.

The finding of \$448 was for lodging and \$75 was for flight change fee. The hotel rate was consistent with standard rooms available at the time of the conference and was higher than normal due to high demand and limited availability. The flight change was reasonable as it permitted the researcher to avoid a return flight through Chicago and ensure that she could return to campus sooner and resume her research.

IU concurs with the finding for \$1,639 and has returned the funds to NSF.

*Auditor Comments:*

The original and revised NSF award budgets included only Post-Doctoral Scholar salaries and fringe benefits, and therefore; spending 10 percent of the award budget on travel was not prudent.

Removing or reducing a line item from the budget during pre-award is an acknowledgement that the change in scope eliminated the amount of travel necessary to successfully complete the project as proposed, and therefore; spending \$877 on travel was not prudent. The report findings remain as previously stated.

We believe that spending \$448 in excess of a city's lodging per diem is excessive and unreasonable. The report finding remains as previously stated. We believe that the flight change fee was not necessary and did not benefit the award.





IU's comment on the remaining item is responsive to the issue noted in this finding. Once NSF determines that the recommendation has been adequately addressed and the \$1,639 in questioned costs have been returned, this finding should be closed.

#### Finding 5 – Unallocable Immigration Fees

We found \$417 in an unallowable visa immigration fee that was not properly allocated to one NSF award. The employee was offered a one-year extension on his postdoctoral position, beginning September 1, 2011, and the department agreed to sponsor the individual's H-1B visa status during this period of appointment. Per the payroll database, the individual only worked 2 months during the one-year post-doctoral extension. There was no benefit to the award for 83 percent (\$417) of the visa immigration fees paid for this employee.

2 CFR 220, Appendix A, Section C.4 states a "...cost is allocable to a sponsored agreement if it is incurred solely to advance the work under the sponsored agreement.... The recipient institution is responsible for ensuring that costs charged to a sponsored agreement are allowable, allocable, and reasonable under these cost principles."

IU personnel did not adequately review the expenditures charged to NSF awards which resulted in unallocable costs. IU indicated that it has performed corrective actions to remove the \$417 in excess visa fees from the award in question. Without a process in place to ensure the proper monitoring of visa fees charged, there is the increased risk that funds may not be used as required to accomplish the necessary project objectives in accordance with Federal requirements. NSF, during audit resolution, should ensure that the awards are credited as appropriate.

#### *Recommendation 5:*

We recommend that the NSF's Director of the DIAS address and resolve the following IU recommendations:

- a. Work with NSF to resolve the \$417 of questioned costs; and,
- b. Strengthen the administrative and management controls and processes for reviewing and approving immigration fees charged to NSF awards.

#### *Awardee Response:*

IU has removed the identified expenditure and returned \$417 to NSF.

#### *Auditor Comments:*

IU's comment is responsive to the issue noted in this finding. Once NSF determines that the recommendation has been adequately addressed and the \$417 in questioned costs have been returned, this finding should be closed.

#### Other Matters:

The population of NSF award charges included two awards with charges occurring more than 90 days prior to the award effective date. We found expenditures on one of the two awards charged more than 90 days before the award effective date, without NSF approval.

Per the NSF AAG, Chapter V, Section A.2.b, Pre-Award Costs, (i) Grantees may incur allowable pre-award costs within the 90 day period immediately preceding the effective date of the grant providing: (a) the approval of pre-award spending is made and documented in accordance with the grantee's procedures; and (b) the advanced funding is necessary for the effective and economical conduct of the project. (ii) Pre-award expenditures are made at the grantee's risk. Grantee authority to approve pre-award costs does not impose an obligation on NSF: (1) in the absence of appropriations; (2) if an award is not subsequently made; or (3) if an award is made for a lesser amount than the grantee anticipated. (iii) Requests for pre-award costs for periods exceeding 90 days must be submitted electronically via use of the Notification and Request module in FastLane. Pre-award expenditures prior to funding of an increment within a continuing grant are not subject to this limitation or approval requirement, but are subject to paragraph (ii) above.

The University established a guarantee account in order for the project to begin with the start of the academic year (July 1, 2010). Purchases were not to have been charged against the guarantee account until September 1, 2010 (90 days prior to the award start date of December 1, 2010). However, due to the use of IU's electronic ordering, the charges were billed and the payments were processed before September 1, 2010, prior to the start of the 90 day pre-award cost period.

The established internal controls were not adequate to prevent the pre-award costs from being charged to the award, to identify the error before the final report, or to guarantee the request to exceed the 90 day period was submitted to NSF. As a result of our audit inquiry into the matter, IU requested and received approval from NSF for the pre-award costs. Therefore, no costs are questioned.

*Recommendation 6:*

We recommend that the NSF's Director of the DIAS address and resolve the following IU recommendation:

- a. Strengthen the administrative and management controls and processes to ensure that charges occurring more than 90 days prior to the award effective date are not charged to an award without NSF approval.

*Awardee Response:*

No response provided.

*Auditor Comments:*

We continue to recommend that IU strengthen the administrative and management controls and processes to ensure that charges occurring more than 90 days prior to the award effective date are not charged to an award without NSF approval.



July 31, 2015



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## **APPENDICES**

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## AWARDEE RESPONSE



July 31, 2015

WithumSmith+Brown  
8403 Colesville Road, Suite 340  
Silver Spring, MD 20910

**Indiana University Response to the “NSF-OIG Indiana University (IU) Audit Potential Findings and Recommendations: April 1, 2010 to March 31, 2013”**

IU has reviewed the draft report entitled “NSF-OIG Indiana University (IU) Audit Potential Findings and Recommendations: April 1, 2010 to March 31, 2013.” The support provided by the National Science Foundation for research conducted at IU has been instrumental in promoting scholarly activities and has led to numerous discoveries. IU and its researchers are committed to conducting all matters in a compliant and ethical manner. Below are our comments addressing the findings in the report.

**Finding 1 – Exceeded NSF Limits on Senior Salary**

IU does not agree with the auditor’s finding related to salary for senior personnel in excess of NSF limits. The NSF policy that limits salary compensation for senior project personnel to no more than two months is specifically related to proposal preparation and submission and not post-award administration nor the post-award rebudget authority IU is permitted. The questioned costs identified in this finding are related to post-award administration of the grant, specifically effort that was not anticipated in the proposal phase, but was necessary after the award was issued.

The NSF Award and Administrative Guide (AAG) Chapters II and V, and the NSF Proposal and Award Policies and Procedures Guide (PAPPG) Chapter II provide guidance for situations when NSF prior approval is required for budget changes. Prior approval for increases in senior personnel salary is not included in this guidance. Furthermore, the NSF policy office, through the 2010 Frequently Asked Questions (FAQs), clarified that grantees have the authority to rebudget senior personnel salary without prior NSF approval so long as the increase does not change the scope of the project. The full text of the 2010 NSF FAQ is as follows:

***Must awardees request prior NSF approval if making a change post-award to the amount originally budgeted for senior personnel salary?***

*NSF has not changed the terms and conditions or any of our post-award prior approval requirements. Therefore, under the normal rebudgeting authority, an awardee can internally approve an increase of salary after an award is made. No prior approval from NSF is necessary. The caveat is if the change would cause the objective or scope of the project to change, then the awardee would have to submit an approval request via FastLane. Since salary can amount to a large part of the budget, there may very well be a scope change with addition of salary, especially if, for example, the PI decided not to hire a grad student in order to have enough money to cover the salary increase.*

## AWARDEE RESPONSE

IU also believes that there have been subsequent events that are not reflected in the auditors report with respect to this finding. The NSF has clarified the appropriate interpretation of the two-month rule in the most recent of the NSF Proposal & Award Policies & Procedures Guide (PAPPG) effective December 26, 2014). The language from the FAQ has now been incorporated into the two-month salary rule to further clarify that recipients may rebudget to charge more than two months salary without NSF prior approval. In addition, resolution by the NSF of similar audit findings of other institutions supports that rebudgeting could occur without NSF prior approval.

IU believes that it has complied with NSF policies with respect to senior personnel salaries and that this finding is not consistent with NSF policy and related agency guidance in effect during the time of these expenditures.

#### **Finding 2 – Unreasonable or Unallocable Transactions**

IU has removed the identified expenditures and returned \$47,116 to the NSF.

#### **Finding 3 – Unreasonable Equipment Charges**

IU has removed the \$200 expenditure related to the purchase of the printer and returned those funds to the NSF. With respect to the other costs questioned, IU believes that the costs are compliant with NSF policy. Specifically at issue are the following questioned costs:

- \$6,665: At the time of the no-cost extension request, the PI originally intended to purchase one 16 channel recording system. However, two 8 channel recording systems were purchased instead in order to be more versatile to move around in a crowded laboratory. These systems were used to complete data collection for this study.
- \$2,418: The computer was purchased in order to acquire and process images of growing plant roots. A computer dedicated to this function was needed as imaging sessions take many hours over several days in a row. The computer was purchased at the time it was needed, after a lengthy preparation period that involved generating new plant varieties by genetic crosses and genetic engineering.
- \$699: The iPad was not mentioned in the change of scope request submitted by IU on July 30, 2009 as the first iPad was not released by Apple Inc. until April 2010. The NSF-approved change of scope request was to enhance the cyberinfrastructure of a field lab. The iPad contributed to this aim by being the only mobile device purchased that could be used outside of the field lab to collect data in natural habitats.
- \$12,052: IU believes that these equipment items were valid commitments made by the university prior to project expiration, and that the equipment benefitted the NSF supported project, which subsequently received additional NSF funding through a competing continuation. NSF policy addresses the allowability of expenditures incurred after the expiration of the grant for certain commitments made prior to the expiration date in Chapter V, Section A.2.c of the NSF Award and Administration Guide:

*"NSF funds may not be expended subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date. (See AAG Chapter III.E.2.) For example, commitment of project funds is valid when specialized (research) equipment is ordered well in advance of the expiration date but where, due to unusual or unforeseen circumstances, delivery of such equipment is delayed beyond the expiration date. The costs of equipment ordered after the expiration date, however, may not be charged to the project."*

AWARDEE RESPONSE

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**Finding 4 – Unreasonable Travel Expenses**

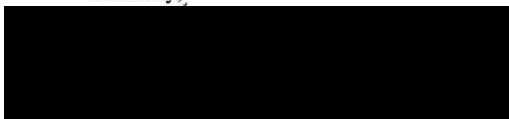
IU has removed the \$1,639 expenditure related to the duplicate lodging expenditure. With respect to the other costs questioned, IU believes that the expenditures are compliant with NSF policy. Specifically at issue are the following questioned costs:

- \$12,944: IU believes these travel costs are reasonable expenditures on the award. Dissemination of research results is an objective of NSF-funded research. At the time of proposal submission, travel was not included in the budget as the mechanism by which research results for this project would be disseminated. Throughout the course of the project, the Principal Investigator (PI) was able to realize unexpected salary savings related to hiring a graduate student who satisfied the unique combination of skills needed for this project after difficulties arose in hiring a properly-qualified post-doctoral candidate. These unanticipated salary savings permitted the PI and the graduate student to travel for the sole purpose of presenting the research work on this project at scientific meetings and to perform educational outreach, consistent with NSF objectives of dissemination of research results. IU contends that the cost is allowable, allocable and reasonable and permitted as part of its budgeting authority.
- \$877: IU does not agree with the auditors determination that the travel is unallowable because a revised budget that was required due to a funding cut did not reflect this expenditure in the budget. IU contends that the cost is allowable, allocable and reasonable and permitted as part of its budgeting authority. NSF did not specifically request that travel be removed from the proposal budget nor was travel removed as a result of travel being unreasonable or unallowable on this project. This travel permitted the PI an opportunity to collaborate with other researchers whose area of expertise is directly related to the NSF-funded project as well as provide the opportunity for dissemination of research results.
- \$448 lodging and \$75 flight change fee: IU does not agree with the auditor's determination that these charges were unreasonable. The hotel rate was consistent with standard rooms available at the time of the conference and were higher than normal due to high demand and limited availability. The flight change was reasonable as it permitted the researcher to avoid a return flight through Chicago (which was experiencing a snow storm in the winter) and ensure that she could return to campus sooner and resume her research.

**Finding 5 – Unallocable Immigration Fees**

IU has removed the identified expenditure and returned \$417 to the NSF.

Sincerely,



## Objectives, Scope, and Methodology

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Our audit included assessing the allowability, allocability and reasonableness of costs claimed by IU on the quarterly Federal Financial Reports (FFR) for the three-year period beginning April 1, 2010 and ending March 31, 2013. We also reviewed the accuracy, reasonableness, and timeliness of IU's ARRA reporting.

The audit was performed in accordance with generally accepted 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. OMB Circulars), and the provisions of the NSF award agreements as relates to the transactions tested;
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 reviewed the IU's policies, procedures, and systems, and interviewed appropriate IU personnel responsible for establishing and implementing control policies, procedures, and systems. 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) reconciled expenditures per the general ledger to the ARRA expenditures; and (3) reviewed the ARRA reporting submission dates.

To aid in determining reasonableness, allowability, and allocability of costs, we obtained from IU all awards for which costs were reported to NSF during the period of April 1, 2010, through March 31, 2013. This provided an audit universe of approximately \$104 million, in more than 184,000 transactions, across 527 individual NSF awards and an NSF ARRA universe of approximately \$8.7 million in more than 17,000 transactions, across 29 NSF awards.

Our work required reliance on computer-processed data obtained from IU and NSF. At our request, IU provided detailed transaction data for all costs charged to NSF awards during our audit period. We also obtained award data directly from NSF which was collected by directly accessing NSF's various data systems. To select transactions for further review, we designed and performed automated tests of IU 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 IU by: (1) comparing costs charged to NSF award accounts within IU's accounting records to reported net expenditures, as reflected in IU'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 IU used to extract transaction data from its accounting records and systems.

Based on our testing, we found IU 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 years 2010 and 2011 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

## Objectives, Scope, and Methodology

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In assessing the allowability of costs reported to NSF by IU, we also gained an understanding of the internal controls applicable to the scope of this audit through interviews with IU, review of policies and procedures, and conducting walkthroughs as applicable. We conducted this performance audit in accordance with generally accepted government auditing standards [*Government Auditing Standards (2011 version)*] 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 assessed IU's compliance with the University's internal policies and procedures, as well as the following:

- 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 (includes the Grant Proposal Guide and Awards 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.