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

MEMORANDUM

Date: September 28, 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. 15-1-022
Carnegie Mellon University

This memo transmits the Cotton & Company LLP (C&C) report for the audit of costs totaling $189 million charged by Carnegie Mellon University (CMU) to its sponsored agreements with NSF during the period October 1, 2011 and ending September 30, 2014. The objective of the audit was to determine if costs claimed by CMU during this period were allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal financial assistance requirements.

The auditors determined that costs CMU charged to its NSF sponsored agreements did not always comply with applicable Federal and NSF award requirements. The auditors questioned $149,672 of costs claimed on NSF awards. Specifically, the auditors noted $108,819 in senior personnel salary that exceeded NSF's two-month limit; $19,399 in unallowable additional compensation; $14,417 in unallowable airfare expenses; and $7,037 in unallowable relocation expenses. These questioned costs resulted in four areas where CMU controls could be improved to ensure compliance with laws and regulations.

The auditors recommended that NSF address the findings by requiring CMU to work with NSF in resolving the questioned costs of $149,672 and strengthen CMU's administrative and management controls.

CMU, in its response dated September 4, 2015, agreed with some of the findings and questioned costs. However, CMU disagreed with the senior personnel salary overcharges because they believe that NSF policy allows for re-budgeting of funds, including the re-budgeting for additional senior personnel effort. CMU's response is described after the findings and recommendations and is included in its entirety in Appendix B.

Appendix A contains a detailed summary of the costs 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 C&C'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 C&C, as necessary, to discuss audit progress, findings, and recommendations;
- Reviewed the audit report, prepared by C&C, to ensure compliance with generally accepted government auditing standards; and
- Coordinated issuance of the audit report.

C&C is responsible for the attached auditor's report on CMU and the conclusions expressed in the report. We do not express any opinion on the conclusions presented in C&C'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 Ken Lish at 303-844-4738.

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

CARNEGIE MELLON UNIVERSITY

PERFORMANCE AUDIT OF INCURRED COSTS FOR NATIONAL SCIENCE FOUNDATION AWARDS FOR THE PERIOD OCTOBER 1, 2011, TO SEPTEMBER 30, 2014

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

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NATIONAL SCIENCE FOUNDATION
PERFORMANCE AUDIT OF INCURRED COSTS
CARNEGIE MELLON UNIVERSITY

I. BACKGROUND

The National Science Foundation (NSF) is an independent federal agency whose mission is "to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense." Through grant awards, cooperative agreements, and contracts, NSF enters into relationships with non-federal organizations to fund research and education initiatives and to gain assistance in supporting its internal financial, administrative, and programmatic operations.

Most federal agencies have an Office of Inspector General (OIG) that provides independent oversight of the agency's programs and operations. Part of the NSF OIG's mission is to conduct audits and investigations to prevent and detect fraud, waste, and abuse. In support of this mission, the NSF OIG may conduct independent and objective audits, investigations, and other reviews to promote the economy, efficiency, and effectiveness of NSF programs and operations, as well as to safeguard their integrity. The NSF OIG may also hire a contractor to provide these audit services.

The NSF OIG issued a solicitation to engage a contractor, Cotton & Company LLP (referred to as "we"), to conduct a performance audit of incurred costs for Carnegie Mellon University (CMU). This performance audit included obtaining transaction-level data for all costs that CMU charged to NSF during the audit period and judgmentally selecting a sample of 250 transactions for testing to evaluate whether the sampled costs were allocable, allowable, reasonable, and in conformity with NSF award terms and conditions, as well as with applicable federal financial assistance requirements. Our audit of CMU, which covered the period from October 1, 2011, to September 30, 2014, encompassed more than $189 million in expenditures that CMU claimed on Federal Financial Reports (FFRs) and through the Award Cash Management Service (ACM$).

This performance audit, conducted under Contract No. D14PA00035, was designed to meet the objectives identified in the "Objectives, Scope, and Methodology" section of this report and was conducted in accordance with Generally Accepted Government Auditing Standards, issued by the Government Accountability Office. We communicated the results of our audit and the related findings and recommendations to CMU and the NSF OIG.

II. AUDIT RESULTS

We performed transaction-based testing on the entire universe of expenditures that CMU claimed on FFRs and through ACM$ during our audit period. This universe encompassed $189,373,232 in costs claimed on 815 NSF awards. Based on the results of our testing, we found instances in

which CMU did not comply with all federal, NSF, and university-specific award requirements. As a result, we questioned $149,672 of the sampled costs claimed by CMU during the audit period. Specifically we found:

- $108,819 of salary costs that exceed NSF's allowable limits.
- $19,399 of unallowable additional compensation.
- $14,417 of unallowable airfare expenses.
- $7,037 of unallowable relocation expenses.

Appendix A of this report provides a breakdown of the questioned costs by finding.

Finding 1: Salary Costs Exceed NSF's Allowable Limits

On three NSF awards, CMU employees that were identified as senior personnel allocated more than two months (or the maximum number of approved months) of their salaries to the awards within a single year. NSF policies and procedures require that awardees obtain specific approval to charge senior personnel salary to an award in this manner. CMU did not obtain this approval and therefore should not have charged the excess salary to these NSF awards.

NSF's *Award and Administration Guide*, Chapter V, Section B.1.a.(ii)(a) states that NSF normally limits the amount of salary that senior project personnel may allocate to NSF awards to no more than two months of their regular salary in any one year. The guidelines specifically assert that if the grantee anticipates the need to allocate senior personnel salary in excess of two months, the excess compensation must be requested in the proposal budget, justified in the budget support documentation, and specifically approved by NSF in the award notice. In instances in which the grantee specifically requests to allocate more than two months of a senior personnel member's salary to NSF, the total amount of salary allocable is limited to the maximum number of months that NSF specifically approves within the applicable budget documents.

While CMU's Sponsored Projects Accounting (SPA) team reviews final expenditures during grant closeout, it does not specifically review grant expenditures to evaluate the total amount of senior personnel salary charged to an award each year. As a result, we identified three instances in which an employee identified as senior personnel inappropriately charged more than the maximum allowable salary amount to NSF-funded projects, as follows:

Instance No.	FY	FY Salary	Amount Charged to NSF	Allowable Months	Allowable Salary	Unallowable Salary
1	2011-2012	$150,000	$49,122	2	$33,333	$15,789
2	2011-2012	117,225	60,110	2.4	31,260	28,850
3	2012-2013	155,000	46,389	2	34,444	11,945

CMU was not able to provide any documentation to verify that NSF had given express permission, either through grant budgets or through subsequent approvals, for the identified employees to allocate more than two months (or the maximum number of months identified) of

their salaries to NSF. We are therefore questioning $108,819 of salary, fringe benefits, and indirect expenses charged to NSF that exceeded the allocation limits.

Instance No.	NSF Award No.	FY	Questioned Costs			
			Direct	Fringe	Indirect	Total
1	[redacted]	2011-2012	[redacted]	[redacted]	[redacted]	$30,021
2	[redacted]	2011-2012	[redacted]	[redacted]	[redacted]	55,844
3	[redacted]	2012-2013	[redacted]	[redacted]	[redacted]	22,954
Total			[redacted]	[redacted]	[redacted]	**$108,819**

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Repay NSF the $108,819 of questioned costs.

2. Strengthen the administrative and management controls and processes over senior personnel salary charges to ensure compliance with NSF policy.

3. Implement university-wide procedures to ensure that all departments are monitoring the allocation of senior personnel salaries.

Carnegie Mellon University Response: CMU agreed that the identified senior personnel allocated more of their salary than the maximum number of months budgeted/approved during the fiscal years identified; however, it stated that, as the additional effort was deemed necessary by the Principal Investigators (PIs) of the awards, the questioned costs should be allowable as claimed. CMU cited NSF's November 2010 *Frequently Asked Questions (FAQs) On Proposal Preparation and Award Administration* document and its December 2014 *Proposal and Award Policies and Procedures Guide*, which both state that an awardee can internally approve an increase in senior personnel salary without approval from NSF under NSF's normal re-budgeting authority.

Auditors' Additional Comments: Our position regarding the finding does not change. While we agree that the 2010 FAQ response provided on NSF's website allows an awardee to increase spending on senior personnel without NSF approval, the FAQs do not represent authoritative guidance and therefore do not overrule NSF's *Award and Administration Guide*, which requires specific approval to allocate more than two months of salary to NSF during a one-year period. CMU also cited NSF's December 2014 *Proposal and Award Policies and Procedures Guide*, which includes guidance that agrees with the FAQ; however, this Guide did not become effective until December 26, 2014, and therefore does not apply to the periods associated with these questioned costs.

Finding 2: Unallowable Additional Compensation

In June 2014, the PI of NSF Award No. [redacted] requested authority from NSF to re-budget $30,000 of this award to support a postdoctoral fellow's salary during summer 2014. After receiving NSF's approval, the PI hired a postdoctoral fellow at a salary of [redacted] per month. CMU appropriately charged [redacted] per month to this NSF award for the fellow's salary in May, June, and July 2014; however, it charged $[redacted] for the fellow's August 2014 salary. CMU personnel stated that the university provided the $10,000 of additional compensation to directly reflect additional tasks that the fellow assumed during the month. Specifically, the PI stated that additional work was necessary to perform closeout procedures on various projects related to this NSF award, as both the PI and the fellow were transferring to [redacted] in September 2014.

Per 2 Code of Federal Regulations (CFR) 220, Appendix A, Section J.10.d, charges for work that faculty members perform on sponsored agreements are determined for each faculty member at a rate not in excess of the base salary divided by the period to which the base salary relates. In no event may charges to sponsored agreements, irrespective of the basis of computation, exceed the proportionate share of the base salary for that period.

The PI of this award provided the postdoctoral fellow an additional $10,000 above their $[redacted] monthly salary appointment, equivalent to [redacted] additional months of the fellow's salary, for extra tasks performed within a single month; however, because this fellow was a full-time salaried employee on a federally sponsored project, CMU was not permitted to provide compensation in excess of the base salary divided by the period to which it relates. We are therefore questioning the additional $10,000 that this employee received above their [redacted] monthly salary appointment, as well as all associated fringe benefits and indirect expenses.

NSF Award No.	FY	Questioned Costs			
		Direct	Fringe	Indirect	Total
[redacted]	2013-2014	[redacted]	[redacted]	[redacted]	$19,399

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Repay NSF the $19,399 of questioned costs.

2. Strengthen administrative and management controls and processes to prevent the allocation of unallowable additional compensation to sponsored awards.

Carnegie Mellon University Response: CMU acknowledged that the documentation provided during this audit to support the additional payment made to the identified postdoctoral fellow did not include a clear justification for the increase. Due to this lack of clarity, CMU agreed to the recommended repayment, but noted that the department responsible for performing NSF Award

No. [redacted] believed that the questioned payment was commensurate with the effort expended by the postdoctoral fellow during the period.

Auditors' Additional Comments: Our position regarding the finding does not change.

Finding 3: Unallowable Airfare Expenses

CMU inappropriately charged $14,417 in personal and business-class airfare expenses to NSF awards. The benefits provided by these expenses were not reasonable, allowable, or necessary for accomplishing the award objectives and did not benefit the programs to which they were allocated. The university therefore should not have charged the expenses to NSF.

In October 2011, a foreign-national postdoctoral scholar traveled to [redacted] to attend the [redacted] to present and discuss topics related to research performed under NSF Award No. [redacted]. The foreign national's H1B visa had expired in September 2011, and as he knew that he would not be allowed to re-enter the United States without renewing the visa, he booked a flight to [redacted] at the same time as he booked his flight to [redacted], so that he could renew his visa after attending the conference. The scholar submitted one expense report for reimbursement of all airfare expenses incurred. CMU determined that the additional airfare was reasonable, as the employee could not return to the U.S. without traveling to [redacted], and therefore did not segregate the additional expenses incurred for the trip to [redacted] instead allocating 100 percent of the total flight expense, or $1,776, to NSF Award No. [redacted]. The additional trip to [redacted] was personal in nature and did not benefit the NSF award, and CMU should therefore not have charged this expense to NSF. As a result of our audit, CMU agreed to remove from the award $266 related to the airfare expenses incurred for the additional flight.

In March 2013, CMU held a workshop in Washington, DC as part of a series of theory and methods workshops supported through NSF Cooperative Agreement No. [redacted] CMU invited a professor from [redacted] to present at this conference and offered to pay for the professor's airfare and lodging. The visiting professor submitted an expense report that included business-class airfare expenses of $5,453. According to CMU, only $1,700 of the flight expense should have been charged to the NSF award; however, due to a processing error, the full amount was charged instead. As the additional business-class expenses were not specifically approved by CMU, they should not have been charged to the NSF award. As a result of our audit, CMU agreed to remove the $3,753 difference.

In November 2013, a CMU faculty member traveled to [redacted] to attend the [redacted] to present a paper and give an invited talk related to research funded by NSF Award No. [redacted] and NSF Award No. [redacted] CMU initially purchased a round-trip business-class ticket for a flight from Pittsburgh, Pennsylvania to [redacted] and allocated the cost evenly between the two NSF awards. The business-class airfare was subsequently changed to economy-class, however, and the airline issued a travel credit to the travel agency that booked the flight. As the credit was issued to the travel agency rather than to CMU, none of it was applied to either of the NSF awards to which the airfare expense had initially been charged. While the traveler was able to apply the credit toward future travel, none

of that travel related to either of the NSF awards, and CMU should therefore not have charged these expenses to NSF. As a result of our audit, CMU agreed to remove the $5,236 credit issued to the travel agency (or $2,618 from each NSF Award).

Per 2 CFR 220, Appendix A, Section J.53.c., *Commercial Air Travel*, airfare costs in excess of the customary standard commercial airfare (coach or equivalent), federal government contract airfare (where authorized and available), or the lowest commercial discount airfare are unallowable except when such accommodations would: (a) require circuitous routing, (b) require travel during unreasonable hours, (c) excessively prolong travel, (d) result in additional costs that would offset the transportation savings, or (e) offer accommodations not reasonably adequate for the traveler's medical needs. In addition, CMU's Business and Travel Expense Policy states that travelers must select the lowest-priced coach airfare and that CMU will only reimburse travelers for expenses that have a business purpose.

As the additional expenses were not incurred as a result of any of the acceptable accommodation upgrade situations identified by 2 CFR 220 and were not incurred in compliance with CMU's policies and procedures, they should not have been charged to NSF. We are therefore questioning $14,417 of unallowable airfare expenses.

NSF Award No.	FY	Questioned Costs		
		Direct Expenses	Indirect Expenses	Total
[redacted]	2012	[redacted]	[redacted]	$414
[redacted]	2013	[redacted]	[redacted]	5,881
[redacted]	2014	[redacted]	[redacted]	4,103
[redacted]	2014	[redacted]	[redacted]	4,019
Total Questioned Costs		[redacted]	[redacted]	**$14,417**

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Provide documentation to the Division of Institution and Award Support demonstrating that it has repaid the questioned costs.

2. Increase department- and division-level understanding of both CMU's Business and Travel Expense Policy and travel regulations identified in 2 CFR 220. Processes could include implementing mandatory training programs and performing periodic reviews of individual departments and divisions for proper implementation of and compliance with CMU policies and federal regulations.

3. Strengthen the administrative and management controls and processes over the processing of travel credit reimbursements.

Carnegie Mellon University Response: CMU concurred with this audit finding and specifically noted that it had provided evidence during the audit confirming that the transactions in question had been removed from the awards. CMU further stated that, while it has many checks in place to ensure compliance with federal regulations and CMU policies, it will investigate additional paths to ensure compliance and will plan to discuss reimbursement procedures with the university's preferred travel agency to develop procedures specifically addressing travel credits.

Auditors' Additional Comments: Our position regarding the finding does not change.

Finding 4: Unallowable Relocation Expenses

While NSF policies allow grantees to directly charge relocation expenses to NSF grants, the relocation fees must be charged in accordance with NSF's *Award and Administration Guide*. Relocation expenses that CMU charged to NSF were not in accordance with the applicable governing cost principles; as a result, CMU inappropriately charged $4,611 of relocation expenses to NSF grants during our audit period.

CMU charged $2,178 in relocation expenses incurred in November 2013 to NSF Award No. [redacted] and $2,433 in relocation expenses incurred in January 2014 to NSF Award No. [redacted]. These relocation expenses were incurred by postdoctoral students that moved to Pittsburgh, Pennsylvania to fill research associate positions on these awards.

NSF's *Award and Administration Guide*, Chapter V, Section C.4 states that relocation costs may be charged to an NSF award in accordance with the applicable governing cost principles, provided that the proposal for NSF support indicates that the grantee intends to hire a specific, named individual to perform full-time work on the project, and that such recruitment action is not disapproved by the grant terms.

While both of these postdoctoral students were identified as participants in the annual reports for these awards, the NSF proposals for the awards did not specifically identify these individuals, nor did they indicate that CMU intended to incur relocation expenses to hire new individuals to fulfill the postdoctoral research positions. These expenses were therefore not appropriate per NSF's *Award and Administration Guide*.

As the relocation fees charged to these NSF grants were not related to named individuals identified in the grant proposal and CMU did not obtain specific permission from NSF to allocate relocation expenses for these employees, we determined that it was not reasonable to charge the fees to these NSF awards. We are therefore questioning $7,037 of relocation expenses, as follows:

NSF Award No.	Fiscal Year	Questioned Costs		
		Direct	Indirect	Total
[redacted]	2013-2014	[redacted]	[redacted]	$3,302
[redacted]	2013-2014	[redacted]	[redacted]	3,735
Total		[redacted]	[redacted]	**$7,037**

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Repay NSF the $7,037 of questioned costs.

2. Strengthen the administrative and management controls and processes over allocating relocation expenses to sponsored projects. Processes could include strengthening internal procedures to ensure that CMU does not charge NSF awards for relocation expenses for employees who were not identified as key personnel in the proposals submitted.

Carnegie Mellon University Response: CMU stated that its SPA office reviews all relocation costs charged to sponsored projects and only allows costs to be charged directly to an award if the relocation was incurred for an employee specifically hired for the project and if the employee spent 100 percent of their effort on the project for 12 continuous months. Based on these criteria, CMU concurred with the costs questioned for NSF Award No. [redacted] however, it believed that the costs questioned for NSF Award No. [redacted] were allowable. CMU specifically noted that the employee hired was not mentioned in the proposal budget because at the time, CMU did not know who would fill the position.

Auditors' Additional Comments: The NSF *Proposal and Award Policies and Procedures Guide*, Chapter V, Section C.4 states that relocation costs may be charged to an NSF grant provided that the NSF proposal specifically indicates that the grantee intends to hire a named individual for full-time work on the project. As the proposal did not identify the relocated individuals as essential to the awards and did not include any funding to support relocation costs, and as CMU was unable to provide any documentation demonstrating that it had informed NSF that it intended to relocate these employees and charge the relocation expenses to the grant, our position regarding the finding does not change.

COTTON & COMPANY LLP

Partner
September 22, 2015

APPENDIX A: SCHEDULE OF QUESTIONED COSTS BY FINDING

NATIONAL SCIENCE FOUNDATION
ORDER # D14PA00035
PERFORMANCE AUDIT OF COSTS CLAIMED ON NSF AWARDS
CARNEGIE MELLON UNIVERSITY

SCHEDULE OF QUESTIONED COSTS BY FINDING

Finding	Description	Cost Breakdown			Total Questioned Costs	
		Direct Costs	Fringe Benefit Costs	Indirect Costs	Unsupported	Unallowable
1	Salary Costs Exceed NSF's Allowable Limits	[redacted]	[redacted]	[redacted]	$0	$108,819
2	Unallowable Additional Compensation	[redacted]	[redacted]	[redacted]	0	19,399
3	Unallowable Airfare Expenses	[redacted]	[redacted]	[redacted]	0	14,417
4	Unallowable Relocation Expenses	[redacted]	[redacted]	[redacted]	0	7,037
Total		[redacted]	[redacted]	[redacted]	**$0**	**$149,672**

APPENDIX B: CARNEGIE MELLON UNIVERSITY RESPONSE

Carnegie Mellon University

5000 Forbes Avenue
Pittsburgh, PA 15213-3890

September 4, 2015

[redacted]
Partner
Cotton & Company, LLP
635 Slaters Lane, 4th Floor
Alexandria, VA 22314

Re: Performance Audit of Incurred Costs for National Science Foundation Awards for the period October 1, 2011 to September 30, 2104

Dear [redacted]

Thank you for the opportunity to respond to the audit findings contained in the above referenced report. Carnegie Mellon's responses are attached.

If you have any questions, please contact [redacted]

Sincerely,

[redacted]
Vice President for Finance
and Chief Financial Officer

Carnegie Mellon University
Response to Performance Audit of Incurred Costs for National Science Foundation Awards for the period October 1, 2011 to September 30, 2014

Finding 1: Salary Costs Exceed NSF's Allowable Limits, pages 2-3

On three NSF awards, CMU employees that were identified senior personnel allocated more than two months (or the maximum number of approved months) of their salaries to the awards within a single year. NSF policies and procedures require that awardees obtain specific approval to charge senior personnel salary to an award in this manner. CMU did not obtain this approval and therefore should not have charged the excess salary to these NSF awards.

CMU was not able to provide any documentation to verify that NSF had given express permission, either through grant budgets or through subsequent approvals, for the identified employees to allocate more than two months (or the maximum number of months identified) of their salaries to NSF. We are therefore questioning $108,819 of salary, fringe benefits, and indirect expenses charged to NSF that exceeded the allocation limits

Instance No.	NSF Award No.	FY	Questioned Costs			
			Direct	Fringe	Indirect	Total
1	[redacted]	2011-2012	[redacted]			$30,021
2		2011-2012				55,844
3		2012-2013				22,954
Total						$108,819

Audit recommendation: We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Repay NSF the $108,819 of questioned costs.
2. Strengthen the administrative and management controls and processes over senior personnel salary charges to ensure compliance with NSF policy.
3. Implement university-wide procedures to ensure that all departments are monitoring the allocation of senior personnel salaries

Response: Carnegie Mellon concurs with the calculation used to determine the total questioned costs, but does not concur with this finding.

Carnegie Mellon understands and complies with the NSF policy regarding compensation for senior personnel. Although senior personnel allocated more than two months (or the maximum number of budgeted/approved months) of their salary, the additional effort incurred during the period of performance of the award was deemed necessary by the PI during the course of the award. NSF does allow for re-budgeting of funds, which includes the re-budgeting for additional senior personnel effort, as evidenced by the following excerpt from the "Frequently Asked Questions (FAQs) On Proposal Preparation and Award Administration" document published by NSF in November 2010." This language was also added to the "Proposal and Award Policies and Procedures Guide" issued by NSF in December 2014, further demonstrating the intent of NSF to allow these costs. Based on the review of the NSF policy and additional guidance, Carnegie Mellon believes that the costs in question are allowable as claimed and should not be repaid.

Carnegie Mellon University
Response to Performance Audit of Incurred Costs for National Science Foundation Awards for the period October 1, 2011 to September 30, 2014

From the FAQ on Proposal Preparation and Award Administration:
Does the "2 month" salary rule apply to all senior personnel or only to faculty on academic appointments?
While the salary policy contained in GPG Chapter II.C.2.g.(i) does apply to all senior personnel listed on the NSF budget, the policy does allow for flexibility to request more than two months of salary per year. If proposers request more than two months, the needed salary support should be put on the proposal budget and will need to be very well justified in the budget justification. If more than 2 months is approved by NSF, it will be included on the award budget.

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.

Finding 2: Unallowable Additional Compensation, pages 3- 4

In June 2014, the Principal Investigator (PI) of NSF Award No. [redacted] requested authority from NSF to re-budget $30,000 of this award to support a postdoctoral fellow's salary during summer 2014. After receiving NSF's approval, the PI hired a postdoctoral fellow at a salary of [redacted] per month. CMU appropriately charged $[redacted] per month to this NSF award for the fellow's salary in May, June, and July 2014; however, it charged [redacted] for the fellow's August 2014 salary. CMU personnel stated that the university provided the $10,000 of additional compensation to directly reflect additional tasks that the fellow assumed during the month. Specifically, the PI stated that additional work was necessary to perform closeout procedures on various projects related to this NSF award, as both the PI and the fellow were transferring to [redacted] n September 2014.

NSF Award No.	FY	Questioned Costs			
		Direct	Fringe	Indirect	Total
[redacted]	2013-2014	[redacted]			$19,399

Audit recommendation: We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:
1. Repay NSF the $19,399 of questioned costs.
2. Strengthen administrative and management controls and processes to prevent the allocation of unallowable additional compensation to sponsored awards.

Page 3

Carnegie Mellon University
Response to Performance Audit of Incurred Costs for National Science Foundation Awards for the period October 1, 2011 to September 30, 2014

Response: Carnegie Mellon does not concur with this finding but agrees to the recommended repayment.

1. *The department responsible for the performance of NSF award [redacted] believes the questioned payment incurred related to, and was commensurate with, the effort expended during that period; and further believes the PI in good faith requested/approved the payment for the effort which directly and significantly affected the research objectives. CMU acknowledges, however, that the supporting documentation regarding the additional payments should have been more thorough, affording a more clear justification during audit. Due to this lack of clarity within the documentation, and since the PI is no longer an employee of CMU, Carnegie Mellon agrees to the recommended repayment.*
2. *Carnegie Mellon will reiterate the importance of adhering to existing controls regarding compensation on sponsored awards as well as maintaining appropriate documented justification regarding any such payments to the campus community.*

Finding 3: Unallowable Airfare Expenses, pages 4 - 6

CMU inappropriately charged $14,417 in personal and business-class airfare expenses to NSF awards. The benefits provided by these expenses were not reasonable, allowable, or necessary for accomplishing award objectives and did not benefit the programs to which they were allocated. The university therefore should not have charged the expenses to NSF.

NSF Award No.	FY	Questioned Costs		
		Direct Expenses	Indirect Expenses	Total
[redacted]	2012	[redacted]	[redacted]	$414
	2013			5,881
	2014			4,103
	2014			4,019
Total Questioned Costs				**$14,417**

Audit recommendation: We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Provide documentation to the Division of Institution and Award Support demonstrating that it has repaid the questioned costs.
2. Increase department and division level understanding of CMU's Business and Travel Expense Policy. Processes could include implementing mandatory training programs, and performing periodic reviews of individual departments and divisions for proper implementation of and compliance with CMU policies.

Carnegie Mellon University
Response to Performance Audit of Incurred Costs for National Science Foundation Awards for the period October 1, 2011 to September 30, 2014

3. Strengthen the administrative and management controls and processes over the processing of travel credit reimbursements.

Response: Carnegie Mellon concurs with this finding.

1. *Carnegie Mellon provided evidence to Cotton & Co. during the audit (either a query of the financial accounting data warehouse or the Accounts Payable Redistribution form) confirming the transactions in question were removed from the awards.*
2. *Carnegie Mellon has many checks in place to ensure compliance with federal regulations and CMU policies including having effective policies and procedures including, but not limited to the Business and Travel Expense Policy and Procurement policies/guidelines. The university has also developed trainings, websites and toolkits to ensure the university community is informed of these requirements. In addition to front end review and approval at the department level and closeout procedures performed by the Sponsored Projects Accounting office on all sponsored awards, the university also has continuous auditing programs in place surrounding employee reimbursements.*
   Although Carnegie Mellon believes the instances noted were exceptions, the university will investigate additional paths to ensure compliance, which includes focused trainings and communications with the individual schools. These trainings commenced in the July timeframe. The Sponsored Projects Accounting office, as well as the Employee Reimbursement Audit group, will also revisit its processes to determine if there are opportunities for further enhancements to its monitoring program.
3. *With respect to the processing of travel credit reimbursements, CMU will discuss the procedures with the university's preferred travel agency suppliers and develop procedures specifically addressing travel credit and/or travel agency reimbursement as well as reiterating to campus the importance of adhering to existing controls regarding domestic and foreign travel. This may include modifying authorization requirements for business class travel or developing reporting tools monitored by the Travel Manager /Procurement Services team to identify situations where such travel was incurred and take corrective action where needed.*

Finding 4: Unallowable Relocation Expenses, pages 6 - 7

While NSF policies allow grantees to directly charge relocation expenses to NSF grants, the relocation fees must be charged in accordance with NSF's Award and Administration Guide. Relocation expenses that CMU charged to NSF were not in accordance with the applicable governing cost principles; as a result, CMU inappropriately charged $4,611 of relocation expenses to NSF grants during our audit period.

NSF Award No.	Fiscal Year	Questioned Costs		
		Direct	Indirect	Total
[redacted]	2013-2014	[redacted]		$3,302
	2013-2014			3,735
Total				$7,037

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Audit Recommendations: We recommend that NSF's Director of the Division of Institution and Award Support request that CMU:

1. Repay NSF the $7,037 of questioned costs.
2. Strengthen the administrative and management controls and processes over allocating relocation expense to sponsored project. Processes could include strengthening internal procedures to ensure that CMU does not charge NSF awards for relocation expenses for employees who were not identified as key personnel in the proposals submitted.

Response: Carnegie Mellon concurs in part with this finding.

1. *Carnegie Mellon's Sponsored Projects Accounting office reviews all relocation costs charged to sponsored awards and takes into consideration two criteria when determining if relocation costs are allowable to an award. The criteria are: was the relocation cost incurred for an employee specifically hired for the project, and did the employee spend 100% of their effort on the project for 12 continuous months? Only if there is an affirmative answer to both questions, will the costs be allowed.*

   CMU concurs for award [redacted] and agrees to the repayment of $3,302. This award is ongoing and therefore the relocation expenses had not yet been reviewed by the Sponsored Projects Accounting office at the time of the audit. The criteria by which these costs would have been evaluated have not been met, therefore the costs have been removed from the award.

   CMU does not concur for award [redacted] and believes the costs are allowable. The person in question was recruited specifically for this project and worked exclusively on this NSF award for more than 12 months after being hired. The person was not specifically mentioned in the proposal budget because it was unknown at the time who would fill the position.

2. *CMU believes the current administrative and management controls and processes over allocating relocation expenses to sponsored projects are compliant with NSF guidelines. Sponsored Projects Accounting will continue to perform reviews to ensure this compliance.*

APPENDIX C: OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES, SCOPE, AND METHODOLOGY

The NSF OIG Office of Audits engaged Cotton & Company LLP (referred to as "we" in this report) to conduct a performance audit of costs that CMU incurred on NSF awards for the period from October 1, 2011, to September 30, 2014. The objective of the audit was to determine if costs claimed by CMU during this period were allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable federal financial assistance requirements.

Our work required reliance on computer-processed data obtained from CMU and the NSF OIG. The NSF OIG provided data on each award that CMU reported on FFRs and through ACM$ during our audit period, and CMU provided detailed transaction-level data for all costs charged to NSF awards during our audit period. This resulted in a total audit universe of $189,373,232 in costs claimed on 815 NSF awards.

We assessed the reliability of the data provided by CMU by (1) comparing costs charged to NSF award accounts within CMU's accounting records to reported net expenditures, as reflected in CMU's quarterly financial reports and ACM$ drawdown requests submitted to NSF for the corresponding periods; and (2) reviewing the parameters that CMU used to extract transaction data from its accounting records and systems.

Based on our assessment, we found CMU's computer-processed data to be sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or the controls over, NSF's databases were accurate or reliable; however, the independent auditor's report on NSF's financial statements for fiscal year 2014 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

CMU management is responsible for establishing and maintaining effective internal control to help ensure that federal award funds are used in compliance with laws, regulations, and award terms. In planning and performing our audit, we considered CMU's internal control solely for the purpose of understanding the policies and procedures relevant to the financial reporting and administration of NSF awards, in order to evaluate CMU's compliance with laws, regulations, and award terms applicable to the items selected for testing, but not for the purpose of expressing an opinion on the effectiveness of CMU's internal control over award financial reporting and administration. Accordingly, we do not express an opinion on the effectiveness of CMU's internal control over its award financial reporting and administration.

To accomplish our objectives of determining reasonableness, allowability, and allocability of costs while identifying and reporting on instances of noncompliance with regulations, federal financial assistance requirements, and provisions of the NSF awards, we judgmentally selected and tested a sample of 250 transactions charged to NSF grants.

After confirming the accuracy of the data provided, but before performing our analysis, we reviewed all available accounting and administrative policies and procedures, relevant documented management initiatives, previously issued external audit reports, and desk review

reports to ensure that we understood the data and that we had identified any possible weaknesses within CMU's system that warranted focus during our testing.

We began our analytics process by reviewing the transaction-level data that CMU provided, then used IDEA software to combine it with the data provided by the NSF OIG. We conducted data mining and data analytics on the entire universe of data provided and compiled a list of transactions that represented anomalies, outliers, and aberrant transactions. We reviewed the results of each of our data tests and judgmentally selected transactions for testing based on criteria including, but not limited to, transactions of large-dollar amounts, possible duplications, indications of unusual trends in spending, descriptions indicating potentially unallowable costs, cost transfers, expenditures outside of an award's period of performance, and unbudgeted expenditures.

We identified 250 transactions for testing and sent the list to CMU, requesting documentation to support each transaction. We reviewed the supporting documentation provided by CMU to determine if we obtained sufficient, appropriate evidence to support the allowability of the sampled expenditures. When necessary, we requested additional supporting documentation, reviewed it, and obtained explanations and justifications from PIs and other knowledgeable CMU personnel until we had sufficient support to assess the allowability, allocability, and reasonableness of each transaction.

At the conclusion of our fieldwork, we provided a summary of our results to NSF OIG personnel for review. We also provided the summary of results to CMU personnel, to ensure that they were aware of each of our findings and did not have any additional documentation available to support the questioned costs identified.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.