

Performance Audit of Incurred Costs – North Carolina State University

REPORT PREPARED BY COTTON & COMPANY LLP

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

May 18, 2018
OIG 18-1-003





AT A GLANCE

Performance Audit of Incurred Costs – North Carolina State University

Report No. OIG 18-1-003

May 18, 2018

AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company (C&C) to conduct a performance audit of incurred costs at North Carolina State University (NCSU) for the period January 1, 2013, to December 31, 2015. The auditors tested more than \$6.8 million of the \$145 million of costs claimed to NSF. The objective of the audit was to determine if costs claimed by NCSU during this period were allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal financial assistance requirements. C&C is responsible for the attached auditors' report and the conclusions expressed in this report. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

AUDIT RESULTS

NCSU did not always comply with all Federal, NSF, and NCSU regulations and policies when allocating expenses to NSF awards. The auditors questioned \$49,192 of costs claimed by NCSU during the audit period. Specifically, the auditors found \$16,709 in unsupported expenses, \$11,824 in unallowable salary expenses, \$8,879 in unallowable airfare expenses, \$6,162 of inappropriately allocated expenses, and \$5,618 of inappropriately allocated indirect costs.

RECOMMENDATIONS

The auditors included six findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure NCSU strengthens administrative and management controls.

AUDITEE RESPONSE

NCSU agreed with all of the findings in the report; thus, the findings remain unchanged. NCSU's response is attached in its entirety to the report as Appendix B.

FOR FURTHER INFORMATION, CONTACT US AT (703) 292-7100 OR OIG@NSF.GOV.



MEMORANDUM

TO: Dale Bell
Director
Division of Institution and Award Support

Jamie French
Director
Division of Grants and Agreements

FROM: Mark Bell [REDACTED]
Assistant Inspector General
Office of Audits

DATE: May 18, 2018

SUBJECT: Audit Report No. 18-1-003, North Carolina State University

This memo transmits Cotton & Company's (C&C) report for the audit of costs charged by North Carolina State University (NCSU) to its sponsored agreements with the National Science Foundation during the period January 1, 2013, to December 31, 2015. The audit encompassed more than \$6.8 million of the \$145 million claimed to NSF during the period. The objective of the audit was to determine if costs claimed by NCSU during this period were allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal financial assistance requirements.

Please coordinate with our office during the 6-month resolution period, as specified by Office of Management and Budget 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

C&C is responsible for the attached auditors' report and the conclusions expressed in this report. We do not express any opinion on the conclusions presented in C&C's audit report. To fulfill our monitoring responsibilities, 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; and
- coordinated issuance of the audit report.



NATIONAL SCIENCE FOUNDATION OFFICE OF INSPECTOR GENERAL

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Billy McCain at 703-292-7100.

Attachment

cc:

John Anderson

John Veysey

Ann Bushmiller

Christina Sarris

Joan Ferrini-Mundy

Fae Korsmo

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Billy McCain

NORTH CAROLINA STATE UNIVERSITY

**PERFORMANCE AUDIT OF INCURRED COSTS FOR
NATIONAL SCIENCE FOUNDATION AWARDS
FOR THE PERIOD JANUARY 1, 2013, TO DECEMBER 31, 2015**

**NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL**

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**NATIONAL SCIENCE FOUNDATION
PERFORMANCE AUDIT OF INCURRED COSTS
NORTH CAROLINA STATE UNIVERSITY**

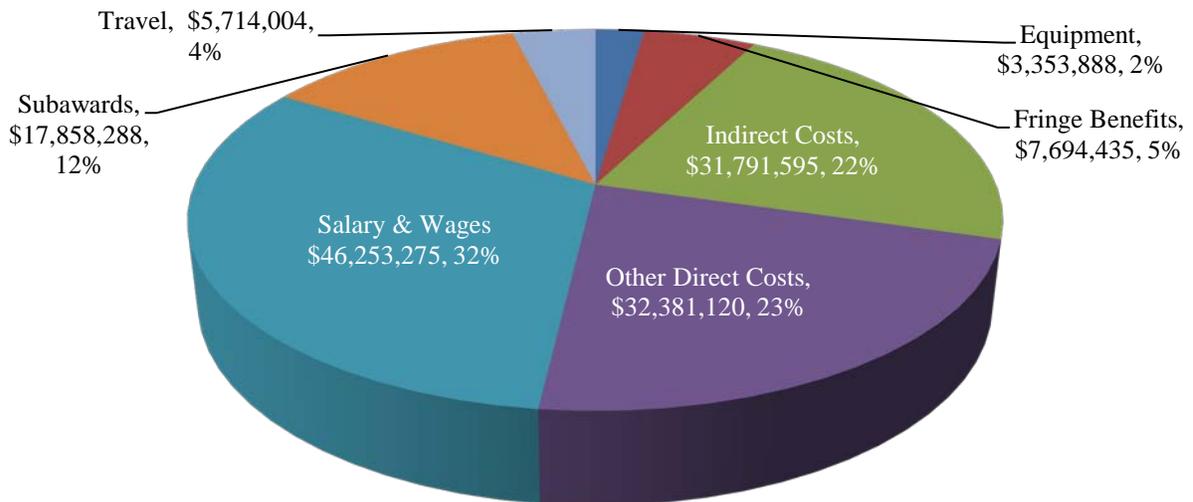
I. BACKGROUND

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 assist 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 engaged Cotton & Company LLP (referred to as "we") to conduct a performance audit of costs incurred by North Carolina State University (NCSU). NCSU is a research-extensive land-grant university that received approximately \$405 million in sponsored research awards for fiscal year (FY) 2017. As illustrated in Figure 1, NCSU claimed more than \$145 million in expenditures through the Award Cash Management Service (ACM\$) across 665 NSF awards during our audit period of performance, or January 1, 2013, through December 31, 2015. Figure 1 also shows costs claimed by budget category based on the accounting data provided by NCSU.

Figure 1: Costs Claimed by NSF Budget Category, January 1, 2013, through December 31, 2015



Source: Auditor analysis of accounting data provided by NCSU.

This performance audit, conducted under Order No. D15PB00568, was designed to meet the objectives identified in the Objectives, Scope, and Methodology (OSM) section of this report (Appendix C) and was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS), issued by the Government Accountability Office. We communicated the results of our audit and the related findings and recommendations to NCSU and the NSF OIG. NCSU’s full response to this report is included in Appendix B of this report.

II. AUDIT RESULTS

As described in the OSM section of this report, this performance audit included obtaining transaction-level data for all costs that NCSU claimed on NSF awards during the audit period. We judgmentally selected a sample of 275 transactions for testing, totaling \$6,303,568 and performed a cluster test which involved reviewing \$484,035 of graduate student payroll expenses charged to 25 awards.

NCSU did not always comply with all Federal, NSF, and NCSU regulations and policies when allocating expenses to NSF awards. It needs improved oversight of the allocation of expenses to NSF awards to ensure costs claimed are reasonable, allocable, and allowable in accordance with those regulations and policies. As a result, we questioned \$49,192 in direct and indirect costs claimed by NCSU during the audit period, as follows:

- \$16,709 of unsupported expenses.
- \$11,824 of unallowable salary expenses.
- \$8,879 of unallowable airfare expenses.
- \$6,162 of inappropriately allocated expenses.
- \$5,618 of inappropriately allocated indirect costs.

We provide a breakdown of the questioned costs by finding in Appendix A of this report.

Finding 1: Unsupported Expenses

NCSU did not provide sufficient support for \$16,709 of expenses charged to NSF awards during the audit period, as follows:

- **No Documentation Available:** In February 2013, NCSU transferred a \$15,000 expense from a departmental holding account to NSF Award No. [REDACTED], [REDACTED]. NCSU provided us with a copy of the journal entry transferring the \$15,000 expense to the NSF award but did not provide any documentation to support the actual expenditures incurred.
- **Insufficient Documentation to Support Costs:** In April 2014, an NCSU employee performing work on NSF Award No. [REDACTED] flew to [REDACTED] to attend a grant-related conference. The employee charged the NSF award \$1,309 in lodging expenses related to the conference. NCSU provided a Priceline document indicating that the employee paid for an airline ticket and a five-night hotel stay; however, the documentation provided to support the cost of the hotel did not support the lodging dates or the location of the hotel stay.
- **Unsupported Payroll Expense:** In June 2015, NCSU transferred \$400 in salary costs from a payroll suspense account to NSF Award No. [REDACTED]. NCSU did not provide documentation to support the transferred payroll expense.

According to 2 Code of Federal Regulations (CFR) 220, Appendix A, Section C.4, a cost is only allocable to a particular cost objective if the goods or services involved are chargeable or assignable to such cost objective in accordance with relative benefits received or other equitable relationship.

Without supporting documentation, we were unable to verify that these expenses were allocable to and allowable under the NSF awards charged. We therefore questioned \$16,709 associated with the unsupported expenses, as follows:

Table 1: Unsupported Expenses

Description	NSF Award No.	Fiscal Year	Questioned Costs
No Documentation Available	[REDACTED]	2013	\$15,000
Insufficient Documentation to Support Costs	[REDACTED]	2014	1,309
Unsupported Payroll Expense	[REDACTED]	2015	400
Total Questioned Costs			<u>\$16,709</u>

Source: Auditor summary of questioned transactions.

Recommendations

We recommend that NSF’s Director of the Division of Institution and Award Support direct NCSU to:

1. Repay NSF the \$16,709 of questioned costs.
2. Strengthen the administrative and management controls and processes over processing expenses on NSF awards. Processes could include:
 - a. Ensuring that all costs transferred to sponsored projects are adequately supported by documentation that supports the actual costs incurred.
 - b. Requiring that all hotel expenses be supported by a receipt provided by the hotel after the traveler completes their stay.

North Carolina State University Response: NCSU agreed to repay the \$16,709 of unsupported expenses and noted that it will enhance its training content to emphasize the importance of maintaining appropriate backup documentation.

Auditors’ Additional Comments: Our position regarding this finding does not change.

Finding 2: Unallowable Pre-Award Salary Expenses

In October [REDACTED], NCSU charged \$11,824 in unallowable pre-award salary expenses to NSF Award No. [REDACTED]. NSF awarded NCSU this grant to provide for the Principal Investigator’s (PI’s) salary while the PI was working for NSF under an Intergovernmental Personnel Act (IPA) assignment for the period from [REDACTED], to [REDACTED].¹ However, NCSU charged the grant \$11,824 associated with the PI’s [REDACTED] salary. NCSU should not have charged Award No. [REDACTED] for salary earned before the effective date of the assignment.

NCSU did not reasonably allocate the salary expense to the NSF grant, as NCSU incurred the expense outside of the allowable expenditure period. We therefore questioned a total of \$11,824 charged to the NSF award, as follows:

Table 2: Unallowable Pre-Award Salary

Description	NSF Award No.	Fiscal Year	Questioned Costs
Unallowable Pre-Award Salary Expenses	[REDACTED]	[REDACTED]	\$11,824

Source: Auditor summary of questioned transactions.

¹ IPA assignments offer scientists, engineers, and educators the opportunity to join NSF as temporary program directors, called rotators. Rotators make recommendations regarding which proposals to fund; influence new directions in the fields of science, engineering, and education; support cutting-edge interdisciplinary research; and mentor junior research members.

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support direct NCSU to:

1. Repay NSF the \$11,824 of questioned costs.
2. Strengthen the administrative and management controls and processes over IPA assignments. Processes could include implementing controls to prevent pre-award costs from posting to accounts set up to accumulate IPA expenses.

North Carolina State University Response: NCSU noted that this finding was the result of an administrative error and agreed to repay the \$11,824 of unallowable salary expenses.

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

Finding 3: Unallowable Business-Class Airfare

NCSU charged two NSF awards a total of \$8,879 of unallowable business-class airfare expenses, as follows:

- **2013 Business-Class Airfare:** In 2013, the PI of NSF Award No. purchased round-trip business-class airline tickets to travel to and from to conduct award-related activities.
- **2015 Business-Class Airfare:** In 2015, the PI of NSF Award No. purchased an economy-class airline ticket to to attend two grant-related conferences; however, the PI purchased a business-class ticket for the return flight. As the result of our audit, NCSU initiated a transfer to remove the upgraded airfare expense from this award.

NCSU and Federal policies both require awardees to limit airfare costs to the standard or lowest coach fare, unless specific exceptions exist. Specifically, NCSU's *Travel Requirements for University Employees* policy states that business-class fare requires specific written prior approval by the department head. In addition, 2 CFR 220, Appendix A, Subsection J.53.c. states that airfare costs in excess of the customary standard airfare are unallowable, with limited exceptions.²

² Specifically, 2 CFR 220, Appendix A, Subsection J.53.c.(1) regarding *Commercial Air Travel* states:

Airfare costs in excess of the customary standard 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. The institution must justify and document these conditions on a case-by-case basis in order for the use of first-class airfare to be allowable in such cases.

NCSU did not appropriately document department head approval, nor did it maintain documentation to support that the business-class airfare met any of the allowable airfare exceptions identified in 2 CFR 220. We therefore questioned \$8,879 of unallowable business-class airfare expenses, as follows:

Table 3: Unallowable Business Class Airfare

Description	NSF Award No.	Fiscal Year	Questioned Costs
██████████ 2013 Business-Class Airfare	██████████	2014	\$4,897
██████████ 2015 Business-Class Airfare	██████████	2015	<u>3,982</u>
Total Questioned Costs			<u>\$8,879</u>

Source: Auditor summary of questioned transactions.

Recommendations

We recommend that NSF’s Director of the Division of Institution and Award Support direct NCSU to:

1. Repay NSF the \$8,879 of questioned costs.
2. Strengthen the administrative and management controls and processes over approving nonstandard commercial airfare (coach or equivalent) charged to sponsored projects. Processes could include requiring travelers to provide documentation that justifies the need for the excess airfare costs before nonstandard airfare can be charged to a sponsored project.

North Carolina State University Response: NCSU agreed to repay the \$8,879 of unallowable travel expenses and noted that it will enhance its training and outreach to PIs regarding unallowable and unreasonable travel costs on NSF awards.

Auditors’ Additional Comments: Our position regarding this finding does not change.

Finding 4: Expenses Not Appropriately Allocated to NSF Awards

NCSU did not allocate expenses to NSF awards based on the relative benefits received by the awards, as required by 2 CFR 220, Appendix A, Section C.4. Specifically, NCSU inappropriately allocated \$6,162 to three NSF awards, as follows:

- **Unallocable Publication Expense:** In June 2013, NCSU allocated \$3,352 in publication costs to NSF Award No. ██████████; however, the published report stated that the research was related to NSF Award Nos. ██████████ and ██████████ instead. In response to our inquiry, NCSU stated that it had charged this expense to NSF Award No. ██████████ by mistake and had initiated a transfer to remove the expense from the award.

- Travel Not Related to Award:** In [REDACTED] 2014, NCSU charged NSF Award No. [REDACTED] for \$2,003 in travel expenses that the PI had incurred to present at a conference in [REDACTED]. The conference was only two days; however, the PI incurred travel expenses for eight days. These expenses included flying from [REDACTED], where the PI was performing non-grant-related research, to the PI's home in [REDACTED]; driving to and from the PI's home to the conference in [REDACTED]; and flying back to [REDACTED] from [REDACTED]. Only two days of the PI's eight-day trip related to the NSF conference; as such, we determined that the \$1,710 associated with the PI's travel to and from [REDACTED] was not incurred for the purposes of this award. The questioned cost amount includes \$47 associated with the PI's taxi ride to the airport in [REDACTED] and \$1,663 associated with the PI's roundtrip airfare from [REDACTED] to [REDACTED].
- Inappropriately Allocated Equipment:** In June 2015, NCSU charged NSF Award No. [REDACTED] for a \$7,817 expense related to the purchase of [REDACTED] incubator. NCSU used this incubator to perform research related both to this NSF award and to other sponsored projects. When we inquired as to why NCSU charged the full cost of the incubator to NSF Award No. [REDACTED] when the equipment benefitted multiple projects, the PI stated that one-seventh of the incubator's cost, or approximately \$1,100, benefitted other projects. The PI initiated a transfer to remove the \$1,100 from NSF Award No. [REDACTED].

NCSU did not have proper controls in place to ensure that it allocated costs to projects based on the relative benefits received by the project. We therefore questioned \$6,162 of costs inappropriately allocated to NSF awards, as follows:

Table 4: Expenses Not Appropriately Allocated to NSF Awards

Description	NSF Award No.	Fiscal Year	Questioned Costs
Unallocable Publication Expense	[REDACTED]	2013	\$3,352
Travel Not Related to Award	[REDACTED]	2014	1,710
Inappropriately Allocated Equipment	[REDACTED]	2015	<u>1,100</u>
Total Questioned Costs			<u>\$6,162</u>

Source: Auditor summary of questioned transactions.

Recommendations

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

1. Repay NSF the \$6,162 of questioned costs.
2. Strengthen the administrative and management controls and processes over allocating expenses to sponsored funding sources. Processes could include requiring NCSU to support all expenses charged to Federal projects using documentation that includes the

methodology for allocating the expenses and a justification for how NCSU determined the methodology to be appropriate.

North Carolina State University Response: NCSU agreed to repay the \$6,162 of questioned costs and noted that it will enhance its training and outreach to PIs regarding allowable costs on NSF awards.

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

Finding 5: Inappropriate Allocation of Indirect Costs

NCSU inappropriately applied indirect costs to participant support costs (PSCs) accumulated on two NSF awards, as follows:

- **August 2015 PSCs:** In August 2015, NCSU charged \$10,423 to NSF Award No. [REDACTED] for lodging expenses for participants in the summer [REDACTED] program. NCSU budgeted the [REDACTED] student lodging expenses as PSCs; however, NCSU charged the expenses to a non-employee travel account rather than to a PSC account. The non-employee travel account incorrectly assessed indirect costs of \$5,055 on the [REDACTED] lodging expenses. As the result of our audit, NCSU initiated a transfer to appropriately account for the student lodging expenses as PSCs.
- **August 2013 PSCs:** In August 2013, NCSU charged \$7,034 to NSF Award No. [REDACTED] for lodging expenses for the PI and five students participating in [REDACTED] summer program. NCSU budgeted funding for the PI's participation as travel and funding for the students' participation as PSCs. However, NCSU allocated 50 percent of the lodging expenses to a travel account and 50 percent to a PSC account. Because only 20 percent of the lodging expenses related to the PI, NCSU should have charged 80 percent of the expenses to the PSC account, rather than 50 percent.³ Allocating the lodging expenses correctly would have reduced the indirect costs charged to this award by \$563. NCSU's controller's office confirmed that the distribution of costs was not correctly entered.

Chapter V, Section D.1.b.(d) of the NSF Award & Administration Guide (AAG) (NSF 08-1) and the NSF PAPPG (NSF 11-1) state that awardees may not charge indirect costs for PSCs, with limited exceptions.⁴

³ Percentages based on the actual costs that NCSU incurred for lodging for the PI and five students at the [REDACTED] in July and August 2013.

⁴ Specifically, NSF PAPPG Chapter V, *Allowability of Costs*, Section D.1.b. states, in pertinent part:

[...]NSF generally provides no amounts for indirect costs for [among other things] participant support costs. However, an allowance for indirect costs associated with participant support costs may be established or negotiated in advance when circumstances indicate that the grantee could be expected to incur significant expenses in administering participant payments (other than salary or other direct expenses being reimbursed under the award).

NCSU did not have appropriate policies and procedures in place to ensure that it appropriately segregated participant support travel costs from general travel accounts. As a result, it inappropriately applied indirect expenses to PSC travel expenses. We therefore questioned \$5,618 of indirect costs inappropriately charged to NSF, as follows:

Table 5: Inappropriate Allocation of Indirect Costs

Description	NSF Award No.	Fiscal Year	Questioned Costs
August 2015 PSCs		2015	\$5,055
August 2013 PSCs		2013	<u>563</u>
Total Questioned Costs			<u>\$5,618</u>

Source: Auditor summary of questioned transactions.

Recommendations

We recommend that NSF’s Director of the Division of Institution and Award Support direct NCSU to:

1. Repay NSF the \$5,618 of questioned costs.
2. Strengthen the administrative and management controls and processes over segregating PSCs. Processes could include developing new policies and procedures that require NCSU to annually review all project accounts for NSF awards that include PSCs in the budget to ensure that NCSU is appropriately tracking and managing the PSCs.

North Carolina State University Response: NCSU agreed to repay the \$5,618 of unallowable indirect expenses and noted that it will enhance its monthly reconciliation of incurred indirect costs as part of the central review that it conducts before invoicing or drawing down funds on NSF awards.

Auditors’ Additional Comments: Our position regarding this finding does not change.

Finding 6: Overnight Travel Not Appropriately Approved

NCSU’s General Travel Requirements state that employees must obtain written authorization prior to traveling overnight; however, we identified four instances in which NCSU personnel traveled overnight without first receiving written authorization. We determined that the travel expenses incurred for these trips were appropriate; however, NCSU failed to properly enforce its travel policy. Without proper enforcement, NCSU personnel could improperly charge unallowable expenses to awards.

Recommendations

We recommend that NSF’s Director of the Division of Institution and Award Support direct NCSU to strengthen the administrative and management controls and processes over travel

expenses charged to Federal awards to ensure that all overnight travel is properly authorized before the travel start date.

North Carolina State University Response: NCSU agreed with this finding and noted that it will enhance its training and outreach to PIs regarding prior approval of overnight travel.

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

COTTON & COMPANY LLP



Michael W. Gillespie, CPA, CFE
Partner

APPENDIX A: SCHEDULE OF QUESTIONED COSTS BY FINDING

NATIONAL SCIENCE FOUNDATION
ORDER # D15PB00568
PERFORMANCE AUDIT OF COSTS CLAIMED ON NSF AWARDS
NORTH CAROLINA STATE UNIVERSITY

SCHEDULE OF QUESTIONED COSTS BY FINDING

Finding	Description	Questioned Costs		Total
		Unsupported	Unallowable	
1	Unsupported Expenses	\$16,709	\$0	\$16,709
2	Unallowable Pre-Award Salary Expenses	0	11,824	11,824
3	Unallowable Business-Class Airfare	0	8,879	8,879
4	Expenses Not Appropriately Allocated to NSF Awards	0	6,162	6,162
5	Inappropriate Allocation of Indirect Costs	0	5,618	5,618
6	Overnight Travel Not Appropriately Approved	0	0	0
Total		<u>\$16,709</u>	<u>\$32,483</u>	<u>\$49,192</u>

APPENDIX B: NORTH CAROLINA STATE UNIVERSITY RESPONSE



Office of Finance and Administration
 Finance Division
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April 23, 2018

[REDACTED]
 Audit Manager
 Cotton & Company, L.L.P.
 635 Slaters Lane, 4th Floor
 Alexandria, VA 22314

Re: North Carolina State University – Performance Audit of Incurred Costs for National Science Foundation Awards for the period of January 1, 2013 to December 31, 2015

Dear [REDACTED]

On behalf of North Carolina State University, I am submitting these comments in response to the Draft Audit Report issued by Cotton & Company on March 23, 2018. North Carolina State University accepts the findings as stated, and our comments listed below focus on our continued training and monitoring actions to mitigate against future findings.

Finding 1 – Unsupported Expenses

North Carolina State University agrees to repay \$16,709 of unsupported expenses. [REDACTED]
 [REDACTED] However, we will enhance our training content to emphasize the maintenance of appropriate backup documentation as required.

Finding 2 – Unallowable Pre-Award Salary Expenses

North Carolina State University agrees to repay \$11,824 of unallowable salary expenses. This finding was the result of an administrative error related to the start of the IPA and the beginning of the contract term for our faculty during the academic year. It does not represent our attempt to use pre-award authorization on an NSF IPA award.

Finding 3 – Unallowable Business-Class Airfare

North Carolina State University agrees to repay \$8,879 of unallowable travel expenses. We will enhance our training and outreach to PIs related to unallowable and unreasonable travel costs on NSF awards.

Finding 4 – Expenses Not Appropriately Allocated to NSF Awards

North Carolina State University agrees to repay \$6,162 of allocated expenses. We will enhance our training and outreach to PIs related to the allowable of costs on NSF awards.

Finding 5 – Inappropriate Allocation of Indirect Costs

North Carolina State University agrees to repay \$5,618 of unallowable F&A expenses. We will enhance our monthly reconciliation of incurred F&A costs as part of the central review of awards prior to invoicing and/or drawdown.

Finding 6 – Overnight Travel Not Appropriately Approved

North Carolina State University agrees to enhance our training and outreach to PIs related to prior approval of overnight travel.

Thank you for the opportunity to submit these comments. We value the strong partnership we have with the National Science Foundation. We strive for excellence in our research activity, take seriously our stewardship over Federal research funding, and are committed to continued administrative improvements.

Sincerely,

A large black rectangular redaction box covering the signature of the Director, Contracts and Grants.

Director, Contracts and Grants

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 NCSU incurred on NSF awards for the period from January 1, 2013, to December 31, 2015. The objective of the audit was to determine if costs claimed by NCSU 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 us to rely on computer-processed data obtained from NCSU and the NSF OIG. The NSF OIG provided award data that NCSU reported through ACM\$ during our audit period. NCSU provided detailed transaction-level data for all costs charged to NSF awards during the period. This resulted in a total audit universe of \$145,046,603 in costs claimed on 665 NSF awards.

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

Based on our assessment, we found NCSU’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 FY 2016 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.

NCSU management is responsible for establishing and maintaining effective internal controls to help ensure that it uses Federal award funds in compliance with laws, regulations, and award terms. In planning and performing our audit, we considered NCSU’s internal control solely for the purpose of understanding the policies and procedures relevant to the financial reporting and administration of NSF awards, to evaluate NCSU’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 NCSU’s internal control over award financial reporting and administration. Accordingly, we do not express an opinion on the effectiveness of NCSU’s internal control over its award financial reporting and administration.

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 NCSU’s system that warranted focus during our testing.

We began our analytics process by reviewing the transaction-level data that NCSU provided and using IDEA software to combine it with the NSF OIG-provided data. 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, 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; at the NSF OIG's request, we also selected a collection of payroll transactions for a cluster test over total funding spent on undergraduate and graduate student salaries. We requested that NCSU provide documentation to support each transaction, as well as the relevant information to support our cluster testing. We reviewed this supporting documentation to determine if we had obtained sufficient, appropriate evidence to support the allowability of the sampled expenditures and to summarize the results of our cluster testing. When necessary, we requested and reviewed additional supporting documentation and obtained explanations and justifications from PIs and other knowledgeable NCSU personnel until we had sufficient support to assess the allowability, allocability, and reasonableness of each transaction.

We discussed the results of our initial fieldwork and our recommendations for expanded testing with NSF OIG personnel. Based on the results of this discussion, we used IDEA software to select an additional judgmental sample of 25 transactions. We requested and received supporting documentation for the additional transactions, performed our test procedures, and summarized the results in our final fieldwork summary.

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 NCSU personnel, to ensure that they were aware of each of our findings and that no additional documentation was available to support the questioned costs.

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.



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