

Performance Audit of Incurred Costs – Georgia Tech Research Corporation

REPORT PREPARED BY WITHUMSMITH+BROWN

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

September 28, 2017
OIG 17-1-008





AT A GLANCE

Performance Audit of Incurred Costs – Georgia Tech Research Corporation

Report No. OIG 17-1-008

September 28, 2017

AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged WithumSmith+Brown (WSB) to conduct a performance audit of incurred costs at Georgia Tech Research Corporation (Georgia Tech) for the period April 1, 2012, to March 31, 2015. The audit encompassed more than \$201 million comprising all costs claimed to NSF. The objective of the audit was to determine if costs claimed by Georgia Tech during this period were allocable, allowable, reasonable, and in conformity with NSF and Federal financial assistance requirements. WSB is responsible for the attached auditor's report and the conclusions expressed in this report. NSF OIG does not express any opinion on the conclusions presented in WSB's audit report.

AUDIT RESULTS

Costs Georgia Tech charged to its NSF-sponsored agreements did not always comply with Federal and NSF award requirements. The auditors questioned \$68,837 of costs claimed by Georgia Tech during the audit period. Specifically, the auditors found \$62,009 in purchases of equipment near the end of the award that did not appear to benefit the NSF award charged and \$6,828 in travel and relocation costs that did not appear reasonable and necessary for the awards charged or were not in compliance with NSF requirements.

RECOMMENDATIONS

The auditors included two findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure Georgia Tech strengthens its administrative and management controls.

AUDITEE RESPONSE

Georgia Tech agreed to remove direct and associated indirect costs for one questioned transaction from an NSF award because it did not provide sufficient supporting documentation. Georgia Tech disagreed with the remaining findings in the report. It contends that some of the costs within the findings are allowable and disagreed with the auditors' interpretation of the Federal guidance. Georgia Tech also believes it has adequate management and administrative controls. After taking Georgia Tech's comments into consideration, the auditors continue to question the costs and left the findings unchanged. Georgia Tech's response is attached in its entirety to the report as Appendix A.

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



NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

MEMORANDUM

TO: Dale Bell
Director
Division of Institution and Award Support

Jamie French
Director
Division of Grants and Agreements

FROM: Mark Bell
Assistant Inspector General
Office of Audits

A handwritten signature in black ink that reads 'Mark Bell'.

DATE: September 28, 2017

SUBJECT: Audit Report No. 17-1-008, Georgia Tech Research Corporation

This memo transmits the WithumSmith+Brown (WSB) report for the audit of costs totaling approximately \$201 million charged by the Georgia Tech Research Corporation (Georgia Tech) to its sponsored agreements with the National Science Foundation during the period April 1, 2012, to March 31, 2015. The objective of the audit was to determine if costs claimed by Georgia Tech during this period were allocable, allowable, reasonable, and in conformity with NSF and Federal financial assistance requirements.

In accordance with Office of Management and Budget Circular A-50, *Audit Followup*, please provide a written corrective action plan to address the report recommendations. In addressing the report's recommendations, this corrective action plan should detail specific actions and associated milestone dates. Please provide the action plan within 60 calendar days of the date of this report.

OIG Oversight of Audit

To fulfill our monitoring responsibilities, 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, 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.



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

Teresa Grancorvitz

Pamela Hawkins

Alex Wynnyk

Rochelle Ray

Carrie Davison

Allison Lerner

Ken Chason

Susan Carnohan

Dan Buchtel

Ken Lish

Billy McCain

Jeremy Hall

Georgia Tech Research Corporation

Audit of Incurred Costs

**National Science Foundation
Office of Inspector General**

September 25, 2017

OIG 17-1-008

Table of Contents

Background	1
Results of Audit	2
Finding 1: Questionable Transactions Near the End of the Award Period	2
Recommendations.....	5
Summary of Awardee Response.....	5
Auditors’ Additional Comments.....	6
Finding 2: Unallowable Travel and Relocation Costs	7
Recommendations.....	8
Summary of Awardee Response.....	8
Auditors’ Additional Comments.....	9
Appendix A: Awardee Response	10
Appendix B: Objective, Scope, Methodology, and Criteria	15
Objective	15
Scope.....	15
Methodology	15
Criteria	16
Appendix C: Questioned Costs Summary by Award.....	17

Abbreviations

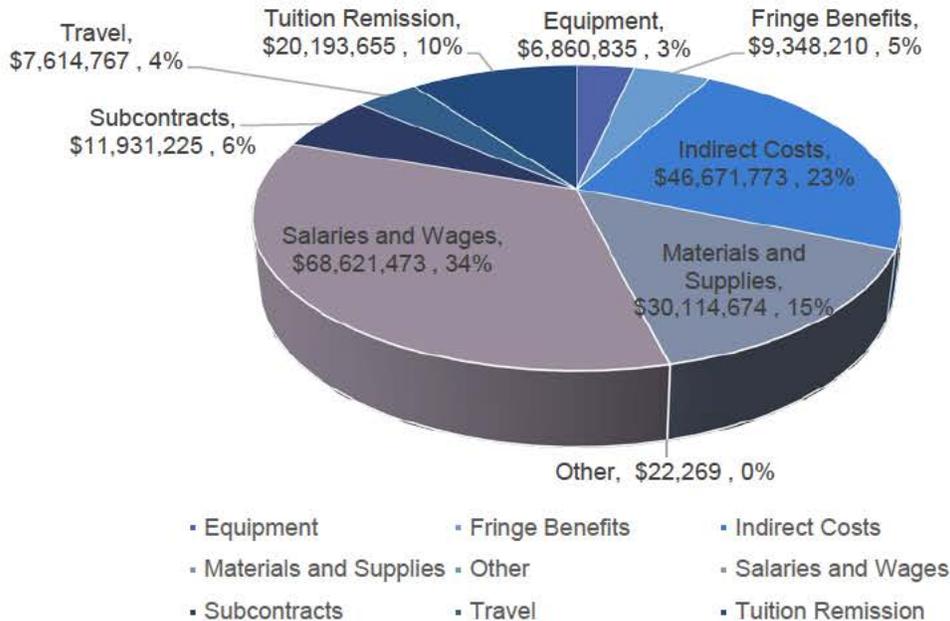
AAG	Award and Administration Guide
CFR	Code of Federal Regulations
GTRC	Georgia Tech Research Corporation
NSF	National Science Foundation
OIG	Office of Inspector General
PI	Principal Investigator

Background

The National Science Foundation (NSF) is an independent Federal agency created to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. NSF 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.

NSF grantees must follow Federal and NSF grant regulations and guidance in administering its NSF awards. The Georgia Tech Research Corporation (GTRC) is a Georgia not-for-profit corporation that works on behalf of all academic departments and serves as the contracting agency for sponsored research projects performed by the Georgia Institute of Technology. GTRC is an NSF grant recipient that received more than \$300 million of Federal awards in fiscal year 2015. As illustrated in Figure 1, between April 1, 2012, and March 31, 2015, GTRC claimed more than \$201 million of costs across 1,072 NSF awards. An analysis of these costs claimed by budget category, based on the accounting data provided by GTRC, is portrayed in Figure 1.

Figure 1. Costs Claimed by NSF Budget Category, April 1, 2012 to March 31, 2015



Source: Auditor analysis of accounting data provided by GTRC

Results of Audit

WithumSmith+Brown, under contract with the NSF-OIG, audited the costs claimed by GTRC on NSF awards for the period beginning April 1, 2012, and ending March 31, 2015. In our testing of 250 judgmentally selected transactions, we identified 10 transactions with a total \$68,837 of questioned costs charged to 9 NSF awards. The questioned costs related to 1) transactions near the end of the award period; and 2) travel and relocation costs. A schedule of questioned costs by award is included in Appendix C.

Finding 1: Questionable Transactions Near the End of the Award Period

We found GTRC made purchases near the end of award periods for items that did not appear necessary or properly allocable to the awards charged.

Equipment, Materials, and Supplies Purchases Do Not Appear to Benefit the Award

We identified six transactions totaling \$62,009 where the purchase of equipment near the end of the award did not appear to benefit the NSF award charged. These questioned transactions are described in Table 1.

Table 1. Description of Questioned Transactions Purchased Near Award Expiration

		NSF Award Number	Total Cost	\$ Charged to NSF	% Charged to NSF	# Days in Award Period	# Days Left in (After) Award
1	Computer Hardware	██████	\$64,855	\$ 20,000	33%	1,095	(15)
2	Computing Equipment	██████	82,721	8,066	10%	2,555	17
3	Apple MacBook Pro	██████	2,458	2,458	100%	1,095	93
4	Graphics Card	██████	1,503	1,503	100%	2,190	37
5	DVD Set, Dust Buster, Digital Camera, Other Electronics	██████	1,262	1,262	100%	1,460	13
6	Laser	██████	28,720	28,720	100%	1,080	71
Total				\$62,009			

Source: Auditor analysis of questioned transactions

We questioned the \$33,289 below on five multi-year awards for various types of electronics purchased near the award expiration. These purchases were not reasonable or necessary considering the limited time remaining on the awards. Additionally, several of the purchases were charged 100 percent to the NSF award, when the award received little, if any, benefit. Other items purchased were general-purpose computer equipment, which GTRC could not demonstrate was used primarily or exclusively on the NSF award, and are therefore not allowable.¹ In other cases, where the equipment was allocated to more than one award or project, the allocation methodology used by GTRC was not adequately documented.²

These five questioned transactions include:

- \$20,000 for the purchase of computer hardware. Computer hardware totaling \$64,855 was purchased on October 12, 2012, and charged to a non-NSF project. On March 15, 2013, \$20,000 of the cost of the computer hardware was transferred to NSF award [REDACTED] that expired February 28, 2013. The purpose of this award was to acquire infrastructure equipment to create a testbed for energy efficient IT to be used in further research. After the expiration of NSF award [REDACTED], GTRC's School of Computer Science finance office sent an email to the Principal Investigator (PI) stating that \$20,000 of the purchase of computer hardware would be transferred to award [REDACTED]. In response to our inquiries, GTRC stated that the equipment purchase was to upgrade the computer infrastructure within the College of Computing, which supports the testbed center and the intention of this award. GTRC also stated that the decision to transfer \$20,000 to this award was based on the estimation that one-third of the rack space was related to this award. The PI, the School of Computer Science, the College of Computing, and the Office of Grants and Contracts all agreed that the amount charged was appropriate. GTRC did not provide any documentation to support this allocation methodology.
- \$8,066 for computing equipment that was received on January 14, 2014, on a 7-year award that expired January 31, 2014. The computing equipment was available for less than 1 percent of the grant life (17 out of 2,555 days). Approximately 10 percent of the purchase price of the computing equipment was allocated to this award. According to GTRC, this was a very data intensive award and this purchase was made at the end of the award for storage and archival purposes as required by the award. GTRC stated the allocation was based on the actual usage of the equipment, but GTRC did not provide any documentation to support the allocation of 10 percent to this award, which did not have any equipment in the approved budget.
- \$2,458 for an Apple MacBook Pro that was purchased on April 29, 2013, on a 3-year award that expired July 31, 2013. This computer appears to be general purpose computer equipment and was only available for 9 percent of the award life (93 out of 1,095 days). GTRC could not provide evidence that this laptop was used primarily or exclusively on this NSF award.

¹ AAG Chapter V, B.2.d. states that “[e]xpenditures for general purpose equipment are normally unallowable unless the equipment is primarily or exclusively used in the actual conduct of research.”

² 2 CFR 220, Appendix A, Section A2.e. states that “the accounting practices of individual colleges and universities must support the accumulation of costs as required by the principles, and must provide for adequate documentation to support costs charged to sponsored agreements.”

- \$1,503 for a graphics card purchased on July 25, 2013, on a 6-year award that expired on August 31, 2013. The graphics card was available for less than 2 percent of the award life (37 out of 2,190 days). GTRC was unable to provide an explanation of how this purchase was necessary for and used exclusively on this award.
- \$1,262 for a DVD set, dust buster, digital camera, and other electronics purchased on August 18, 2014, on a 4-year award that expired on August 31, 2014. These items were available for less than 1 percent of the award life (13 out of 1,460 days). GTRC could not provide evidence that these items were used primarily or exclusively on this NSF award.

It should be noted that in November 2013, NSF added guidance to the Award and Administration Guide (AAG) that states that a grantee should not purchase items of equipment in anticipation of the expiration of an award where there is little or no time left to be utilized in the actual conduct of research.³ Although this guidance was not in effect for the awards we are questioning, this addition to the AAG is consistent with cost principles for reasonableness and allocability, in which all costs must be fully allocable to the award that they are charged and incurred solely to advance the work under that award.

Additionally, we questioned \$28,720 for the purchase of a laser received on June 21, 2013, on a 3-year award that expired on August 31, 2013. GTRC spent 7 percent of the cumulative award budget on this laser that was only available for 2.5 months of the grant life (71 out of 1,080 days). Furthermore, the purchase of this laser was not included in the award budget. Per GTRC, this laser was the upgraded version of the previous one used by their lab that broke and was unrepairable. The entire cost of the laser was charged to NSF award [REDACTED]. GTRC stated that a major contributor to the decision to purchase the laser is that a continuation of this research was awarded under NSF award [REDACTED], and that this was an unforeseen expense at the time of the proposal. GTRC also indicated that the rebudgeting of the awarded funds to purchase this equipment was reviewed by both the Office of Sponsored Programs and The Office of Grants and Contracts Accounting, and both offices agreed that the budgeting of funds to purchase this equipment was both allowable and reasonable. Documentation to support these approvals was not provided during the audit.

NSF guidance requires grantees to assure that each purchase of equipment is necessary for the research or activity supported by the grant.⁴ We therefore question whether it was reasonable to charge 100 percent of the cost of this laser to an award that was expiring and could only provide little, if any, benefit to this award.

³ AAG Chapter V, Section A.2.c, November 2013 (NSF 14-1)

⁴ AAG Chapter IV, Section E.2.a.(i), January 2010 (NSF 10-1)

We are questioning costs associated with these equipment expenses as shown in Table 2:

Table 2. Summary of Questioned Transactions Purchased Near Award Expiration

NSF Award No.	FY	Questioned Costs		
		Direct	Indirect*	Total
	2012-2013	\$ 20,000	\$	\$ 20,000
	2013-2014	8,066		8,066
	2012-2013	1,628	830	2,458
	2013-2014	1,000	503	1,503
	2014-2015	836	426	1,262
	2012-2013	28,720		28,720
Total Questioned Costs		\$ 60,250	\$ 1,759	\$ 62,009

*We calculated indirect costs by multiplying the questioned direct costs by the actual indirect cost rate applied to the incurred cost per GTRC's general ledger.
Source: Auditor analysis of questioned transactions

Recommendations

We recommend that the NSF's Director of the Division of Institution and Award Support address and resolve the following GTRC recommendations:

1. Resolve the \$62,009 of questioned costs.
2. Strengthen the administrative and management controls and processes over expenditures near the end of an award and allocation of equipment.

Summary of Awardee Response

GTRC does not agree with the questioned costs totaling \$62,009 for the transactions near award expiration as follows:

Transaction 1 (\$20,000)

GTRC stated this purchase was critical for meeting the objectives of the award and that the costs claimed were within the approved budget for the cost category. The PI, who has primary responsibility to manage the award funds, in collaboration with GTRC IT professionals, determined that the allocation was proper and allowable. The cost transfer was reviewed and approved by the department and the Office of Grants and Contracts Accounting in accordance with Institute policy, and therefore GTRC concluded that the allocation was appropriate and disagreed with the questioned cost.

Transaction 2 (\$8,066)

GTRC stated this purchase was needed to complete the analysis for the research and for storage of the data required by NSF. The allocation of 10% of the purchase was based on the PI's usage and research needs with guidance from the Institute's IT professionals. The PI has primary responsibility for the management of the award funds, and the institution's documentation

requirements for the actions of the PI are sufficient. GTRC concluded that the PI's allocation was appropriate and disagreed with the questioned costs.

Transactions 3, 4, and 5 (\$1,628, \$1,000, \$836)

GTRC stated these purchases followed Institute policies and procedures including appropriate approvals, and disagreed with these findings.

Transaction 6 (\$28,720)

GTRC stated this purchase was an essential component and was made to replace an unrepairable laser. The PI worked with the Office of Sponsored Programs and the Office of Grants and Contracts Accounting to use remaining project funds to purchase this equipment under rebudgeting authority. Institution representatives agreed that the expense was allowable, allocable and reasonable. GTRC concluded that the purchase of this equipment was allocable and allowable and benefited the award, and was in accordance with OMB guidance and FDP expanded authority. GTRC disagrees with the questioned costs.

See Appendix A for the complete GTRC response.

Auditors' Additional Comments

Transaction 1 (\$20,000)

Our conclusion remains unchanged. GTRC did not provide any additional documentation to support the allocation of approximately one-third of this purchase cost to the award, as required by Federal financial assistance requirements. Therefore, the report findings and recommendations remain as stated.

Transaction 2 (\$8,066)

Our conclusion remains unchanged. GTRC did not provide any additional documentation to support the allocation of 10 percent of this purchase cost to the award, as required by Federal financial assistance requirements. Therefore, the report findings and recommendations remain as stated.

Transactions 3, 4, and 5 (\$1,628, \$1,000, \$836)

For the three transactions for computer equipment, electronics, and supplies purchases that GTRC disagreed with, our conclusions remain unchanged. The additional information provided by GTRC did not change our view that these purchases near various award expiration dates should be questioned. Therefore, the report findings and recommendations remain as stated.

Transaction 6 (\$28,720)

Our conclusion remains unchanged. The additional information provided by GTRC did not change our view that this purchase near the award expiration date should be questioned. Therefore, the report findings and recommendations remain as stated.

Finding 2: Unallowable Travel and Relocation Costs

We identified several travel and relocation costs that did not appear reasonable and necessary for the awards charged or were not in compliance with NSF requirements.

Travel Was Not Reasonable and Necessary

We questioned three transactions totaling \$4,666 charged to award [REDACTED] for a trip taken by the PI. The award was made to support two lecturers and six students attending a summer school in Italy. NSF made this \$20,000 award to cover the travel for the eight participants with the understanding that the PI's travel costs would be covered by non-Federal funds.

According to the proposal, the PI's travel was supposed to be covered by non-Federal funds. However, because the third party funding was not obtained, the PI used NSF award funds to cover [REDACTED] travel costs. The PI's travel costs included travel to [REDACTED] Italy. According to the travel expense report, the PI "will travel to [REDACTED] Italy for a workshop. And then will stay in [REDACTED] to work with research collaborators."

Although the school session took place in June 2012, the grant was not actually awarded until January 6, 2013. Amendment 1 to the award, dated April 2, 2013, permitted GTRC to incur \$14,709 of pre-award costs more than 90 days prior to the award date. However, even though GTRC's proposal excluded the PI's travel costs, GTRC then included the PI's travel costs with the \$14,709 approved by NSF. NSF was not notified that the requested amount also included the PI's travel costs.

We are questioning whether it was reasonable to use 25 percent of the award budget to support the PI's travel when the budget justification in the approved budget clearly stated the PI's travel costs would come from non-Federal funds. Based on the documentation provided for audit, we are also questioning the relevancy and necessity of the PI's travel to [REDACTED] on an award that was supposed to support only the travel of eight other individuals to attend a school in Italy. GTRC stated that the PI properly managed the funding and actually spent less than the award amount; these expenses went through GTRC's internal approval process; and the PI ultimately completed what NSF asked him to do in a short time frame.

Relocation Costs Did Not Comply with NSF Requirements

We questioned one transaction totaling \$2,162 charged to award [REDACTED] for reimbursement of an employee's moving and relocation expenses to work on the award 6 months prior to the award expiration date. The reimbursement was for a flight on August 30, 2012, and the award expired on February 28, 2013. The proposal did not mention that GTRC planned to hire this individual for full-time work on this award.

In order to charge relocation costs directly to an NSF award, NSF requires that a proposal for NSF support specifically indicate, among other things, that the grantee intends to hire a named

individual for full-time work on the project, and that the individual is essential to the project on a full-time basis for a continuous period of at least 12 months.⁵ These two conditions were not met in this instance. As a result of the unreasonable travel and unallowable relocation costs, we are questioning a total of \$6,828 as shown in Table 3:

Table 3. Summary of Questioned Travel and Relocation Costs

NSF Award No.	FY	Questioned Costs		
		Direct	Indirect*	Total
██████████	2012-2013	\$ 4,666	\$	\$ 4,666
██████████	2012-2013	1,432	730	2,162
Total Questioned Costs		\$ 6,098	\$ 730	\$ 6,828

*We calculated indirect costs by multiplying the questioned direct costs by the actual indirect cost rate applied to the incurred cost per GTRC's general ledger.
 Source: Auditor analysis of questioned transactions

Recommendations

We recommend that the NSF’s Director of the Division of Institution and Award Support address and resolve the following GTRC recommendations:

1. Resolve the \$6,828 of questioned costs.
2. Strengthen the administrative and management controls and processes over travel and relocation costs.

Summary of Awardee Response

GTRC does not agree with the \$6,828 of questioned travel and relocation costs as follows:

Transactions 1, 2, and 3 (\$4,666)

GTRC disagreed with these questioned costs. When the non-Federal funding did not materialize, the PI was left to manage the NSF budget to cover travel costs and meet the obligations of the award. The collaboration with the ██████████ from an institution in ██████████ was noted in the final report submitted to NSF, and that the PI worked closely with the partners on all aspects of the workshop both before and after the workshop. GTRC also stated the authorization to incur pre-award costs began on June 16, 2012, which was the date the PI departed for ██████████. The PI did not communicate with the NSF Program officer at the time because ██████████ did not believe it was necessary as ██████████ was working within the scope of the award and the approved budget.

Transaction 4 (\$1,432)

GTRC contends this transaction was processed within the policies and procedures of the Institution and is allowable, allocable, and reasonable. However, GTRC stated that since the documentation

⁵ NSF AAG Chapter V.C.4 Relocation Costs

provided was deemed insufficient, it will take appropriate steps to remove these costs and associated F&A from the award.

See Appendix A for the complete GTRC response.

Auditors' Additional Comments

Transactions 1, 2, and 3 (\$4,666)

For the transactions totaling \$4,666 that GTRC disagreed with, our conclusions remain unchanged. The additional information provided by GTRC did not change our view that using a significant percentage of award funds for expenses NSF did not agree to in the budget was not reasonable under the circumstances. We believe that NSF should have been made aware of the lack of non-federal funding to support this award, especially since the event occurred prior to the effective date of the award, as that may have impacted NSF's funding decision. Therefore, the report findings and recommendations remain as stated.

Transaction 4 (\$1,432)

GTRC's comment related to this transaction is responsive to this portion of the finding. Once NSF determines that the \$2,162 (\$1,432 direct costs plus \$730 F&A costs) has been returned, this issue related to the relocation costs should be closed.

Withum Smith & Brown, PC

Appendix A: Awardee Response



September 20, 2017

Mr. Eric Strauss, Partner
WithumSmith+Brown
Two Logan Square
Eighteenth and Arch Streets
Suite 2001
Philadelphia, PA 19103

Dear Mr. Strauss,

The Georgia Tech Research Corporation is in receipt of the National Science Foundation Office of Inspector General (NSF-OIG) draft audit report OIG-17-3-00X dated September 1, 2017. This audit of incurred costs covers the period April 1, 2012 through March 31, 2015 and included more than \$201 million in claimed costs. We would like to thank the WithumSmith+Brown audit team for engaging in this audit in a collaborative and professional manner. In addition, we appreciate the opportunity to demonstrate Georgia Tech's internal controls and management systems in the administration of NSF and all Federal sponsored awards. We trust that the cost, benefit, and value of this audit and similar audits will be objectively measured and will lead to further reliance on the Federal Single Audit going forward.

The audit report identifies 10 transactions totaling \$68,837 in direct and indirect costs relating to 1) transactions near the end of the award period; and 2) travel and relocation costs. We believe that all transactions were processed within the policies and procedures of our institution and are allowable, allocable, and reasonable. Our responses to the individual questionable transactions are below:

Georgia Tech Research Corporation
an affiliated organization of
Georgia Institute of Technology
Atlanta, Georgia 30332-0415 U.S.A.
PHONE 404.894.4819 FAX 404.894.7002
www.gtrc.gatech.edu

A Unit of the University System of Georgia | An Equal Education and Employment Opportunity Institution

Appendix A: Awardee Response

Finding 1: Questionable Transactions Near the End of the Award Period (6 transactions)

Transaction #1: The transaction in question is a \$20,000 allocation of computer hardware costs totaling \$64,855. The cost was transferred to the award shortly after the period of performance had ended but the purchase was made and the equipment used within the award period, providing benefit to the award. The purpose of the award, as referenced in the audit finding, “was to acquire infrastructure equipment to create a testbed for energy efficient IT, to be used in further research”, and as a result the purchase of the computer hardware was critical to successfully meeting the objectives of the award. The total equipment costs claimed were within the approved budget for the cost category.

The email noted in the finding documents and summarizes the allocation decision made by the principal investigator (PI), as the person with first-hand knowledge of the activities and benefit to the award. OMB Circular A-21, Cost Principles for Educational Institutions, in effect at the time of this award, states in Section C4d, Allocation and Documentation Standard, “if a cost benefits two or more projects or activities in proportions that can be determined without undue effort or cost, the cost should be allocated to the projects based on the proportional benefit. If a cost benefits two or more projects or activities in proportions that cannot be determined because of the interrelationship of the work involved, then, notwithstanding subsection C4b, the costs may be allocated or transferred to benefited projects on any reasonable basis, consistent with subsections C4d(1) and C4d(2)”. Further, Section C4d allows for institutions to authorize the “PI or other individual to have primary responsibility, given the requirements of subsection C4d(2), for the management of sponsored agreement funds, then the institution’s documentation requirements for the actions of those individuals will normally be considered sufficient”. The PI, in collaboration with Institute IT professionals, made the determination that 1/3 of the cost was allocable and allowable to this NSF award based on the infrastructure footprint of the rack space used for the hardware, and communicated such to his financial support team, as documented by the email provided. The cost transfer was reviewed and approved both in the department and the Office of Grants and Contracts Accounting in central financial administration as allowable based on Institute policy. We believe the allocation was appropriate for this purchase and disagree with the questioned cost.

Appendix A: Awardee Response

Transaction #2: The transaction in question in the amount of \$8,066 was an allocation for the purchase of computer hardware. The hardware, purchased in combination with other hardware to take advantage of pricing benefits, was used for computing capability and storage for this data intensive research project. The expanded storage and computing capability was needed to complete analysis of the research data for the final NSF report and publications for this research, as well as the storage of data as required by NSF. The audit report questions the allocation methodology stating, "GTRC did not provide any documentation to support the allocation of 10 percent to this award..." As previously stated to the auditors, the allocation was 10% of the overall purchase and was based on the PI's usage and research needs with guidance from the Institute's IT professionals.

OMB Circular A-21, Cost Principles for Educational Institutions, Section C4d, allows for institutions to authorize the "PI or other individual to have primary responsibility, given the requirements of subsection C4d(2), for the management of sponsored agreement funds, then the institution's documentation requirements for the actions of those individuals will normally be considered sufficient". The PI, with the assistance of other institutional experts, made the determination that the purchase of this computer hardware was allocable and allowable to this NSF award and was of benefit the award to complete data analysis and data storage needs. We believe the allocation was appropriate for this purchase and disagree with the questioned cost.

Transactions #3, 4 & 5: Georgia Tech disagrees with these findings. While the purchases were made late in the award period, Institute policies and procedures were followed regarding the procurement of the items, including appropriate approvals.

Transaction #6: The transaction in question was for a \$28,720 purchase of replacement laser equipment required to provide results for the final report under this award. This purchase was initiated within the last 6 months of the award to replace the previous laser which had broken and was determined to be unrepairable. This purchase was an unforeseen expense but was an essential component of the research apparatus. Within this last 6 months of the award, the PI worked with the Office of Sponsored Programs and the Office of Grants and Contracts Accounting to use remaining project funds to purchase this equipment, under

Appendix A: Awardee Response

rebudgeting authority. At the time of purchase, all institutional representatives agreed that this expense was allowable, allocable, and reasonable.

OMB Circular A-21, Cost Principles for Educational Institutions, Section C4d, allows for institutions to authorize the "PI or other individual to have primary responsibility, given the requirements of subsection C4d(2), for the management of sponsored agreement funds, then the institution's documentation requirements for the actions of those individuals will normally be considered sufficient". The PI, with institutional review and approval, made the determination that the purchase of this equipment was allocable and allowable to this NSF award and was of benefit to the award. This action was also in accordance OMB guidance and the FDP expanded authority. We believe the allocation was appropriate for this purchase and disagree with the questioned cost.

Finding 2: Unallowable Travel and Relocation Costs (4 transactions)

Transactions 1-3: The three travel transactions questioned are related to the same trip taken by the PI under a \$20,000 NSF award where the sole purpose of the funding was to conduct an [REDACTED] in Italy, a program held annually [REDACTED]. The proposal was submitted to NSF on May 1, 2012 and the workshop took place on June [REDACTED] 2012, although the NSF award was not executed until January 2013. We do not dispute that additional non-Federal funding was proposed, but when it did not materialize the PI was left to manage the NSF budget to cover [REDACTED] travel costs and meet the obligations of the award. An amendment to the award was executed on April 2, 2013 authorizing Georgia Tech to incur pre-award costs beginning on June [REDACTED] 2012, which is the date the PI departed for [REDACTED] prior to the workshop. During the audit field work, we provided explanations from the PI regarding the PI's collaboration with the [REDACTED] one of whom is from [REDACTED]. The final report submitted to NSF identifies the institute in [REDACTED] as the main organization responsible for the workshop and stated that the PI worked closely with the partners on all aspects of the workshop. This documents to NSF that the PI collaborated with [REDACTED] before and after the workshop. The PI noted that [REDACTED] did not communicate with the NSF program officer at the time because [REDACTED] did not believe it would be necessary or required as [REDACTED] was working within the scope of the award and within the approved budget. Based on this information provided during the audit field work, we disagree with the questioned costs.

Appendix A: Awardee Response

Transaction 4: Georgia Tech contends that this 2012 transaction was processed within the policies and procedures of our institution and is allowable, allocable, and reasonable. However, since the documentation provided was deemed insufficient, the Institute will take appropriate steps to remove these costs and associated F&A from the award.

If you have any questions or need additional information, please contact Sandra Mason at 404-385-7561 or by email at sandra.mason@business.gatech.edu.

Sincerely,



Jilda Diehl Garton
Vice President for Research and
General Manager, GTRC & GTARC

Appendix B: Objective, Scope, Methodology, and Criteria

Objective

To determine if costs claimed by GTRC on NSF awards are allowable, allocable, reasonable, and in compliance with NSF and Federal financial assistance requirements.

Scope

Our audit included assessing the allowability, allocability, and reasonableness of costs claimed by GTRC through the Award Cash Management Service for the 3-year period beginning April 1, 2012, through March 31, 2015. We obtained from GTRC all award transactions comprising all costs claimed to NSF during this period. This provided an audit universe of more than \$201 million, in more than 195,000 transactions, across 1,072 individual NSF awards. For transaction testing, we judgmentally selected 250 transactions totaling more than \$4.5 million and utilized a data analytics approach to identify potential risk areas.

The audit work was conducted at the auditors' offices; at NSF in Arlington, Virginia; and onsite at GTRC in Atlanta, Georgia. Onsite fieldwork was conducted during August 2016.

This performance audit was conducted 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 the conclusions based on the audit objective. The auditors believe that the evidence obtained provides a reasonable basis for the conclusions based on the audit objective.

Methodology

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

Based on our testing, we found GTRC 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 2014 and 2015 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

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

Criteria

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

- 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*;
- 2 CFR Part 220, *Cost Principles for Educational Institutions* (OMB Circular A-21);
- 2 CFR Part 215, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (OMB Circular A-110);
- NSF Proposal and Award Policies and Procedures Guide (includes the *Grant Proposal Guide* and *Award and Administration Guide*), November 2013 (NSF 14-1);
- NSF Award Specific Terms and Conditions; and
- NSF Federal Demonstration Partnership Terms and Conditions.

Appendix C: Questioned Costs Summary by Award

Award Number	Direct Costs	Indirect Costs	Total Questioned
Finding 1 – Questionable Transactions Near the End of the Award Period			
	\$ 20,000	\$ --	\$ 20,000
	8,066	--	8,066
	1,628	830	2,458
	1,000	503	1,503
	836	426	1,262
	28,720	--	28,720
Finding 1 Total	\$ 60,250	\$ 1,759	\$ 62,009
Finding 2 – Unallowable Travel and Relocation Costs			
	\$ 4,666	\$ --	\$ 4,666
	1,432	730	2,162
Finding 2 Total	\$ 6,098	\$ 730	\$ 6,828



NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL