

Performance Audit of Incurred Costs – Rensselaer Polytechnic Institute

REPORT PREPARED BY COTTON & COMPANY ASSURANCE
AND ADVISORY, LLC

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

March 22, 2023
OIG 23-1-006





AT A GLANCE

Performance Audit of Incurred Costs – Rensselaer Polytechnic Institute

Report No. OIG 23-1-006

March 22, 2023

AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company Assurance and Advisory, LLC (C&C) to conduct a performance audit of incurred costs at Rensselaer Polytechnic Institute (RPI) for the period September 9, 2018, to September 10, 2021. The auditors tested more than \$1.7 million of the approximately \$38 million of costs claimed to NSF. The primary objective of the audit was to determine if costs claimed by RPI on NSF awards were allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and federal financial assistance requirements. A full description of the audit's objectives, scope, and methodology is attached to the report as Appendix B.

AUDIT RESULTS

The report highlights concerns about RPI's compliance with certain federal and NSF award requirements, NSF award terms and conditions, and RPI policies. The auditors questioned \$198,137 of costs claimed by RPI during the audit period. Specifically, the auditors found \$180,711 of unallowable expenses, \$8,407 of inappropriately allocated expenses, \$4,519 of Award Cash Management Service (ACM\$) drawdowns that exceeded expenses, \$3,889 of indirect cost rates inappropriately applied, and \$611 of inadequately supported expenses. The auditors also identified one compliance-related finding for which the auditors did not question any costs: non-compliance with RPI policies. In addition to the findings, the report includes one area for improvement related to applying proposed indirect cost rates. C&C is responsible for the attached report and the conclusions expressed in it. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

RECOMMENDATIONS

The auditors included 6 findings and one area for improvement in the report with associated recommendations for NSF to resolve the questioned costs and to ensure RPI strengthens administrative and management controls.

AUDITEE RESPONSE

RPI agreed with the majority of the findings in the report, agreeing to reimburse NSF for \$167,254 in questioned costs. RPI's response is attached in its entirety as Appendix A.

FOR FURTHER INFORMATION, CONTACT US AT OIGPUBLICAFFAIRS@NSF.GOV.



National Science Foundation • Office of Inspector General
2415 Eisenhower Avenue, Alexandria, Virginia 22314

MEMORANDUM

DATE: March 22, 2023

TO: Quadira Dantro
Director
Division of Institution and Award Support

Jamie French
Director
Division of Grants and Agreements



FROM: Daniel J. Buchtel
Deputy Assistant Inspector General
Office of Audits

SUBJECT: Audit Report No. 23-1-006, Rensselaer Polytechnic Institute

This memorandum transmits the Cotton & Company Assurance and Advisory, LLC (C&C) report for the audit of incurred costs at Rensselaer Polytechnic Institute (RPI) for the period September 9, 2018, to September 10, 2021. The audit encompassed more than \$1.7 million of the approximately \$38 million of costs claimed to NSF during the period. The primary objective of the audit was to determine if costs claimed by RPI on NSF awards were allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and federal financial assistance requirements. A full description of the audit's objectives, scope, and methodology is attached to the report as Appendix B.

Please coordinate with our office during the 6-month resolution period, as specified by OMB Circular A-50, to develop a mutually agreeable resolution of the audit findings. 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 the 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 responsibilities, we:

- 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.

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 Jae Kim at 703.292.7100 or OIGpublicaffairs@nsf.gov.

Attachment

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EXECUTIVE SUMMARY

The Cotton & Company Assurance and Advisory, LLC, audit team determined that the Rensselaer Polytechnic Institute (RPI) needs improved oversight of the allocation and documentation of expenses charged to NSF awards to ensure costs claimed are reasonable, allocable, and allowable in accordance with all federal regulations, NSF award terms and conditions, and RPI policies. Specifically, the audit report includes six findings, one area for improvement, and a total of \$198,137 in questioned costs.

AUDIT OBJECTIVES

The National Science Foundation Office of Inspector General engaged Cotton & Company Assurance and Advisory, LLC (herein referred to as “we”), to conduct a performance audit of costs RPI incurred for the period from September 9, 2018, to September 10, 2021. The audit objectives included evaluating RPI’s award management environment to determine whether any further audit work was warranted and performing additional audit work, as determined appropriate. We have attached a full description of the audit’s objectives, scope, and methodology as [Appendix B](#).

AUDIT CRITERIA

The audit team assessed RPI’s compliance with relevant federal regulations (i.e., 2 Code of Federal Regulations [CFR] 200, 2 CFR 215, and 2 CFR 220); NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 11-1, 13-1, 14-1, 15-1, 16-1, 17-1, 18-1, 19-1, and 20-1; NSF award terms and conditions; and RPI policies and procedures. The audit team included references to relevant criteria within each finding and defined key terms within the Glossary located in [Appendix E](#).

We conducted this performance audit in accordance with *Generally Accepted Government Auditing Standards* (GAGAS) issued by the Comptroller General of the United States.

AUDIT FINDINGS

As summarized in [Appendix C](#), the auditors identified and questioned \$198,137 of direct and indirect costs RPI inappropriately claimed during the audit period, including:

- \$180,711 of unallowable expenses
- \$8,407 of inappropriately allocated expenses
- \$4,519 of Award Cash Management Service (ACM\$) drawdowns that exceeded expenses
- \$3,889 of indirect cost rates inappropriately applied
- \$611 of inadequately supported expenses

The audit report also includes one compliance-related finding for which the auditors did not question any costs:

- Non-compliance with RPI policies

In addition to the six findings, the audit report includes one area for improvement for RPI to consider related to:

- Applying proposed indirect cost rates

RECOMMENDATIONS

The audit report includes 22 recommendations and 1 consideration for NSF’s Director of the Division of Institution and Award Support related to resolving the \$198,137 in questioned costs and ensuring RPI strengthens its award management environment, as summarized in [Appendix D](#).

AUDITEE RESPONSE

RPI agreed with a majority of the findings in the report, agreeing to reimburse NSF for \$167,254 in questioned costs. RPI’s response to the audit report is attached, in its entirety, as [Appendix A](#).

Table of Contents

Background	1
Audit Scope.....	2
Audit Results	3
Finding 1: Unallowable Expenses	4
Finding 2: Inappropriately Allocated Expenses.....	10
Finding 3: ACM\$ Drawdowns Exceeded Expenses	14
Finding 4: Indirect Cost Rates Inappropriately Applied	15
Finding 5: Inadequately Supported Expenses	17
Finding 6: Non-Compliance with RPI Policies	19
Area for Improvement: Applying Proposed Indirect Cost Rates.....	23
Appendix A: RPI’s Response	25
Appendix B: Objectives, Scope, and Methodology.....	32
Appendix C: Summary of Questioned Costs.....	37
Appendix D: Summary of Recommendations and Considerations.....	42
Appendix E: Glossary	46

Abbreviations

ACM\$	Award Cash Management \$ervice
CFR	Code of Federal Regulations
FY	Fiscal Year
GAGAS	Generally Accepted Government Auditing Standards
GL	General Ledger
iN2N	International Network-of-Networks
MTDC	Modified Total Direct Costs
NICRA	Negotiated Indirect Cost Rate Agreement
NSF	National Science Foundation
OIG	Office of Inspector General
PAPPG	Proposal and Award Policies and Procedures Guide
PI	Principal Investigator
POP	Period of Performance
RDA	Research Data Alliance
RPI	Rensselaer Polytechnic Institute

BACKGROUND

The National Science Foundation is an independent federal agency created “to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes” (Pub. L. No. 81-507). NSF funds research and education in science and engineering by awarding grants and contracts to educational and research institutions throughout the United States.

Most federal agencies have an Office of Inspector General that provides independent oversight of the agency’s programs and operations. Part of NSF OIG’s mission is to conduct audits and investigations to prevent and detect fraud, waste, and abuse. In support of this mission, 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. NSF OIG may also hire a contractor to provide these audit services.

NSF OIG engaged Cotton & Company Assurance and Advisory, LLC (referred to as “we”), to conduct a performance audit of costs claimed by Rensselaer Polytechnic Institute (RPI). RPI is a private research university located in Troy, New York. In fiscal year (FY) 2021, RPI reported approximately \$88 million in grants and contracts, with \$50.7 million received from federal sources—including NSF—as illustrated in Figure 1.

Figure 1: RPI’s FY 2021 Operating Revenue Sources



Source: The chart data is supported by RPI’s 2021 Single Audit Report available on the [Federal Clearinghouse website](#).¹ The photo of RPI is publicly available on RPI’s website (<https://news.rpi.edu/content/2019/05/30/rensselaer-polytechnic-institute-ranks-high-best-programs-veterans>).

¹ See RPI’s Report on Federal Awards in Accordance with the Uniform Guidance for the Year Ended June 30, 2021.

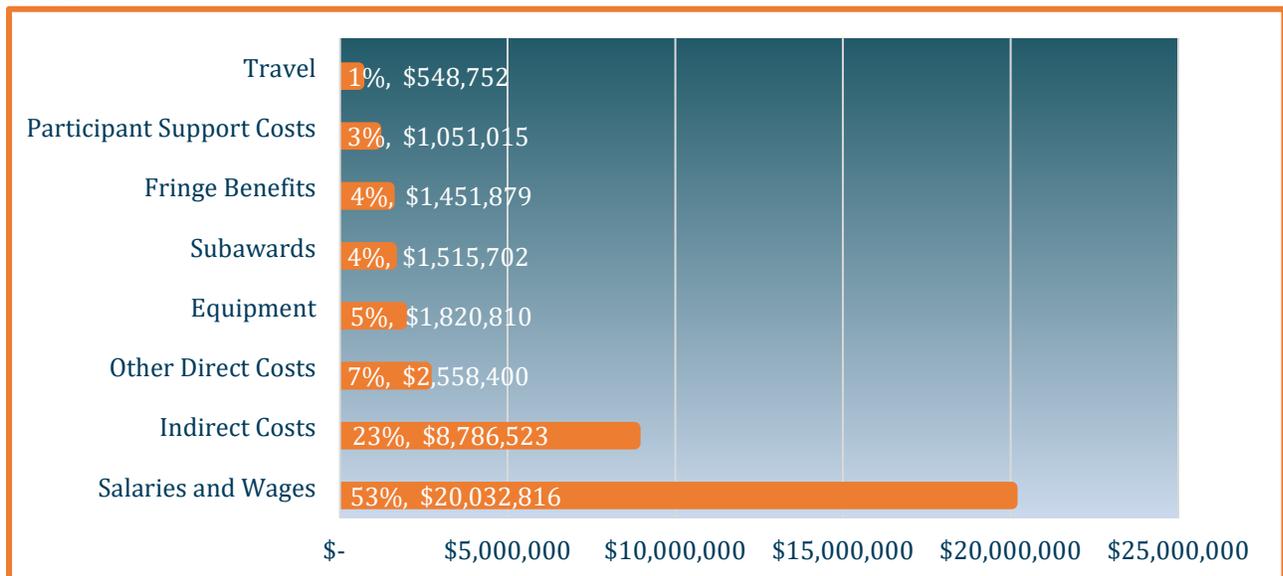
AUDIT SCOPE

This performance audit—conducted under Order No. 140D0421F0597—was designed to meet the objectives identified in the Objectives, Scope, and Methodology section of this report ([Appendix B](#)) and was conducted in accordance with *Generally Accepted Government Auditing Standards* (GAGAS) issued by the Comptroller General of the United States.

The objectives of this performance audit were to evaluate RPI’s award management environment; to determine if costs claimed on NSF awards were allowable, allocable, reasonable, and in compliance with relevant federal and NSF regulations; to determine whether any further audit work was warranted; and to perform any additional audit work, as determined appropriate. [Appendix B](#) provides detailed information regarding the two phases in which we conducted this engagement: the Audit Survey Phase and the Expanded Testing Audit Phase.

As illustrated in Figure 2, RPI provided general ledger (GL) data to support the \$37.7 million in expenses it claimed on 239 NSF awards during our audit [period of performance](#) (POP) of September 9, 2018, to September 10, 2021.

Figure 2: Costs Claimed on NSF Awards from September 9, 2018, to September 10, 2021²



Source: Auditor analysis of accounting data RPI provided, illustrating the total costs supported by RPI’s GL (\$37,708,575) by expense type, using financial information to support costs incurred on NSF awards during the audit period. Please note that “Other Direct Costs” in this table include materials and [supplies](#), computer services, consultant services, [publications](#), and other direct costs.

² The total award-related expenses reported in RPI’s GL exceeded the \$37,693,501 in NSF’s Award Cash Management Service (ACM\$). Refer to the [Objectives, Scope, and Methodology](#) section of this report for additional details.

We judgmentally selected 82 transactions totaling \$1,736,803³ (see Table 1) and evaluated supporting documentation to determine whether the costs claimed on the NSF awards were **allocable**, **allowable**, and **reasonable**, and whether they were in conformity with NSF award terms and conditions, organizational policies, and applicable federal financial assistance requirements.

Table 1: Summary of Selected Transactions

Budget Category	Transaction Count	Expense Amount ⁴
Equipment	16	\$1,154,413
Subawards	5	145,777
Materials and Supplies	19	139,772
Salaries and Wages	8	73,635
Participant Support Costs	5	65,917
Travel	17	56,727
Other Direct Costs	6	55,048
Consultant Services	2	29,507
Fringe Benefits	2	11,128
Indirect Costs	1	3,343
Computer Services	1	1,536
Total	<u>82</u>	<u>\$1,736,803</u>

Source: Auditor summary of selected transactions.

Additionally, we performed non-transaction-based cluster testing in four areas to evaluate whether RPI appropriately: (1) re-budgeted **participant support costs**; (2) established summer **salary and wage** assignments; (3) **allocated** publication costs; and (4) reimbursed indirect costs claimed by organizations with **subawards**.

AUDIT RESULTS

We identified and questioned \$198,137 in costs RPI claimed on 17 NSF awards. We also identified expenses RPI charged to 11 NSF awards that did not result in questioned costs, but instead resulted in non-compliance with federal regulations, NSF guidance, and/or RPI-specific policies and procedures. See Table 2 for a summary of questioned costs by finding area, **Appendix C** for a summary of questioned costs by NSF award, and **Appendix D** for a summary of all recommendations.

Table 2: Summary of Questioned Costs by Finding Area

Finding Description	Questioned Costs
Unallowable Expenses	\$180,711
Inappropriately Allocated Expenses	8,407
ACM\$ Drawdowns Exceeded Expenses	4,519
Indirect Cost Rates Inappropriately Applied	3,889

³ The \$1,736,803 represents the total value of the 82 transactions selected for transaction-based testing. It does not represent the dollar base of the total costs reviewed during the audit.

⁴ The expense amounts reported represent the total dollar value of the transactions selected for our sample; they do not include the total **fringe benefit** or **indirect costs** applied to the sampled transactions, which we also tested for allowability.

Finding Description	Questioned Costs
Inadequately Supported Expenses	611
Non-Compliance with RPI Policies	-
Total	<u>\$198,137</u>

Source: Auditor summary of findings identified.

We made 22 recommendations for NSF’s Director of the Division of Institution and Award Support related to resolving the \$198,137 in questioned costs and ensuring RPI strengthens its administrative and management policies and procedures for monitoring federal funds. We communicated the results of our audit and the related findings and recommendations to RPI and the NSF OIG. We included RPI’s response to this report in its entirety in [Appendix A](#).

FINDING 1: UNALLOWABLE EXPENSES

RPI charged nine NSF awards a total of \$180,711 in expenses for a service agreement, participant support costs, publication, salary, and [travel](#) expenses that are unallowable, per federal regulations⁵ and NSF [Proposal and Award Policies and Procedures Guides \(PAPPGs\)](#).⁶

Unallowable Service Agreement

RPI charged one NSF award for \$116,664 in expenses incurred for a service agreement that did not benefit the award charged as required to be allowable per federal regulations,⁷ as illustrated in Table 3.

Table 3: Unallowable Service Agreement

Expense Date	NSF Award No.	Unallowable Amount	Unallowable Expenses Associated With:	Notes
October 2019	██████████	\$116,664	██████████ Service Agreement	a

Source: Auditor summary of identified exception.

- a) In October 2019, RPI charged NSF Award No. ██████████ for \$116,664 for costs associated with a ██████████ service agreement that RPI determined did not benefit the NSF award.

⁵ According to 2 Code of Federal Regulations (CFR) 220, Appendix A, Sections C.2., C.3., and C.4.d.(4), and 2 CFR § 200.403, *Factors affecting allowability of costs*, for a cost to be allowable, it must be adequately documented, necessary, and reasonable for the performance of the federal award. See [Appendix E](#) of this report for additional factors affecting the allowability of costs.

⁶ NSF PAPPGs 13-1, 14-1, and 16-1, Part II, Chapter V, Section A, *Basic Considerations*, and 17-1 and 18-1, Part II, Chapter X, Section A, *Basic Considerations*, state grantees should ensure all costs charged to NSF awards meet the requirements of the applicable federal cost principles, grant terms and conditions, and any other specific requirements of both the award notice and the applicable program solicitation.

⁷ According to 2 CFR § 200.403, *Factors affecting allowability of costs*, (a) costs must be necessary and reasonable for the performance of the federal award and allocable to the award to be allowable. In addition, per 2 CFR § 200.405, *Allocable costs*, (a) a cost is 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.

Unallowable Use of Participant Support Funds

RPI used \$54,492 of participant support funding awarded on two NSF awards to cover non-participant expenses, which is not allowable without prior NSF approval per the NSF PAPPG,⁸ as illustrated in Table 4.

Table 4: Unallowable Use of Participant Support Funding

NSF Award No.	Amount of Participant Funds	Participant Funds Used to Cover:	Notes
	\$10,303	Faculty Summer Salary	a
██████████	7,899	Indirect Expenses	
	3,137	Employee Benefits	
	1,019	Other Direct Costs	
██████████	32,134	Conference Costs	b

Source: Auditor summary of identified exceptions.

- a) Between December 2016 and August 2021, RPI inappropriately used \$22,358 in participant support funds awarded on NSF Award No. ██████████ to cover faculty summer salaries, employee benefits, overhead, and other non-participant-related expenses.
- b) In June 2019, RPI used \$32,134 in participant support costs awarded under NSF Award No. ██████████ to host an International Network-of-Networks (iN2N) conference during the Research Data Alliance’s (RDA’s) 13th Plenary Event to cover housing, meal, and indirect expenses incurred when hosting non-iN2N award sessions at the RDA event. Although RPI provided an e-mail from an NSF Program Director approving the Principal Investigator’s (PI’s) request to use NSF Award No. ██████████ funds to support the non-iN2N RDA conference expenses, these costs are not allowable because the PI’s formal request submitted via NSF’s Fastlane system to re-budget the participant support costs was rejected by the Grants Officer.⁹

⁸ According to NSF PAPPG 18-1 and 20-1, Part I, Chapter II, Section C.2.g.(v), any additional categories of participant support costs other than those described in 2 CFR § 200.75 (such as incentives, gifts, souvenirs, t-shirts, and memorabilia) must be justified in the budget justification, and such costs will be closely scrutinized by NSF.

⁹ NSF PAPPG 18-1, Introduction, Part E.3, Division of Grants & Agreements, notes that Grants Officers are responsible for issuing all award amendments and certain post-award prior approvals. Further, NSF Grant General Conditions (GC-1), effective October 22, 2018, Article 7, *Participant Support Costs*, states that requests to re-budget participant support costs must be submitted electronically via use of NSF’s electronic systems.

Unallowable Publication Expenses

RPI charged two NSF awards for \$5,255 in expenses incurred to publish research articles that did not acknowledge the NSF awards charged, as required for the publication expenses to be allowable per federal regulations¹⁰ and NSF PAPPGs,¹¹ as illustrated in Table 5.

Table 5: Unallowable Publication Expenses

Expense Date	NSF Award No.	Expense Amount	Notes
November 2018	██████████	\$3,653	a
July 2020	██████████	1,602	b

Source: Auditor summary of identified exceptions.

- a) In November 2018, RPI charged NSF Award No. ██████████ for \$3,653 in publication fees to print an article that thanked an individual for sponsoring the work at NSF, but inadvertently did not specifically list that the work was supported by NSF Award No. ██████████
- b) In July 2020, RPI charged NSF Award No. ██████████ for \$1,602 in fees incurred to publish a paper that inadvertently did not report that the work was supported by NSF Award No. ██████████

Unallowable Summer Salary Expenses

RPI charged two NSF awards for \$3,324 in summer salary expenses that were not certified or paid in a manner consistent with RPI’s policies, as required for the salary costs to be allowable per federal regulations,¹² as illustrated in Table 6.

Table 6: Unallowable Summer Salary Expenses

Expense Date	NSF Award No.	Unallowable Total	Unallowable Expenses Associated With:	Notes
October 2018	██████████	\$1,782	Uncertified Effort Report	a
July 2021	██████████	1,542	Duplicate Salary Payment	b

Source: Auditor summary of identified exceptions.

¹⁰ According to 2 CFR § 200.461 and 2 CFR 220, Appendix A, Section J.39, *Publication and printing costs*, (b), charges for professional journal publications are allowable where: (1) the publications report work supported by the federal government.

¹¹ According to NSF PAPPGs 13-1, Part II, Chapter VI, Section E.4.a, *Grantee Obligations*, and 17-1, Part II, Chapter XI, Section E.4.a, *Grantee Obligations*, the grantee is responsible for assuring acknowledgement of NSF support is made in any publication of any materials developed under an NSF project.

¹² According to 2 CFR § 200.430, *Compensation—personal services*, costs of compensation are allowable to the extent that they satisfy the specific requirements of this part, and that the total compensation for individual employees: (1) Is reasonable for the services rendered and conforms to the established written policy of the non-federal entity consistently applied to both federal and non-federal activities; (2) Follows an appointment made in accordance with a non-federal entity’s laws and/or rules or written policies and meets the requirements of federal statute, where applicable; and (3) Is determined and supported as provided in *Standards for Documentation of Personnel Expenses*, when applicable. Additionally, charges for work performed by faculty members on federal awards during periods not included in the base salary period will be at a rate not in excess of the Institutional Base Salary (IBS).

- a) In October 2018, RPI charged \$1,782 in expenses to NSF Award No. [REDACTED] for a summer salary paid to a graduate student for work performed from July 26, 2018, through August 8, 2018, that was not certified as allocable to the award per a labor verification report.
- b) In July 2021, RPI charged \$1,542 in salary expenses incurred for the pay period ending July 7, 2021, to NSF Award No. [REDACTED] however, RPI had already charged the award for the \$1,542 it paid the employee for that pay period on July 16, 2021.

Unallowable Travel Expenses

RPI charged two NSF awards for \$976 in travel expenses that were either unreasonable¹³ or did not benefit the awards charged and are therefore unallowable per federal regulations,¹⁴ as illustrated in Table 7.

Table 7: Unallowable Travel Expenses

Expense Date	NSF Award No.	Unallowable Amount	Unallowable Expenses Associated With:	Notes
August 2018	[REDACTED]	\$464	Unreasonable Airfare Expenses	a
September 2018	[REDACTED]	263	Lodging 'No Show' Fee	b
June 2019	[REDACTED]	249	Early Lodging Departure Fee	c

Source: Auditor summary of identified exceptions.

- a) In August 2018, RPI charged NSF Award No. [REDACTED] for \$780 for a flight from [REDACTED] NY to [REDACTED] that was purchased by the PI on August 8, 2018, to attend an NSF award-related conference on August 9, 2018. Because the PI purchased their \$530 registration to attend this conference on July 20, 2018, which was 20 days before the conference began, it does not appear reasonable¹⁵ that the NSF award was charged for \$464 in higher airfare costs that appear to have been incurred as a result of booking the flight 1 day before the conference.¹⁶
- b) In September 2018, RPI charged NSF Award No. [REDACTED] for \$263 in costs associated with a "Guaranteed No Show" expense.

¹³ According to 2 CFR 220, Appendix A, Section C.3, a reasonable cost must reflect the action that a prudent person would have taken under the circumstances prevailing at the time the decision to incur the cost was made.

¹⁴ According to 2 CFR 220, Appendix A, Section J.53 and 2 CFR §200.474, *Travel costs*, costs are allowable only to the extent that such costs do not exceed charges normally allowed by the non-federal entity in its regular operations as the result of the non-federal entity's written travel policy. Further, the regulations note that if these costs are charged directly to the federal award, documentation must justify that the individual's participation is necessary to the federal award and that the costs are reasonable and consistent with the non-federal entity's established travel policy.

¹⁵ According to RPI's *Human Resources Policy Guidelines*, section 1000.1, *Travel and Entertainment Expense Reimbursement Policy*, each employee will be reimbursed for all necessary and reasonable expenses incurred in connection with approved travel and/or entertainment while on Institute business.

¹⁶ As no historical data was available, to determine a reasonable price we reviewed the average price for flights from [REDACTED], NY to [REDACTED] in August 2023 to calculate an average flight price of \$316. \$780 flight - \$316 average flight cost = \$464 in higher airfare.

c) In June 2019, RPI charged NSF Award No. [REDACTED] for \$249 for an early departure fee.

Conclusion

RPI did not have adequate procedures or internal controls in place to ensure it only charged allowable costs to NSF awards. Specifically, RPI’s procedures did not ensure that all service agreements purchased were used to directly benefit the NSF award charged; all participant support funds were used only to support NSF award participants; it only charged NSF awards for publications that recognized the NSF award number charged as a sponsor; all summer salary expenses were appropriately certified/paid; and/or all travel expenses were reasonable/benefitted the NSF award(s) charged.

We are therefore questioning \$180,711 of unallowable expenses charged to nine NSF awards. RPI concurred with \$156,367 of the questioned costs but disagreed with the remaining \$24,344, as illustrated in Table 8.

Table 8: Finding 1 Summary: Unallowable Expenses

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			RPI Agreed to Reimburse
			Direct	Indirect	Total	
[REDACTED]	October 2019 Service Agreement	2020	\$72,015	\$44,649	\$116,664	\$116,664
[REDACTED]	December 2016-August 2021 Participant Support Costs	2017 - 2022	14,459	7,899	22,358	22,358
[REDACTED]	June 2019 Participant Support Costs	2019	24,344	7,790	32,134	7,790 ¹⁷
[REDACTED]	November 2018 Publication	2019	2,255	1,398	3,653	3,653
[REDACTED]	July 2020 Publication	2021	1,000	602	1,602	1,602
[REDACTED]	October 2018 Salary	2019	1,100	682	1,782	1,782
[REDACTED]	July 2021 Salary	2021	952	590	1,542	1,542
[REDACTED]	August 2018 Airfare	2019	464	-	464	464
[REDACTED]	September 2018 Lodging	2019	263	-	263	263
[REDACTED]	June 2019 Lodging	2019	189	60	249	249
Total			<u>\$117,041</u>	<u>\$63,670</u>	<u>\$180,711</u>	<u>\$156,367</u>

Source: Auditor summary of identified exceptions.

¹⁷ RPI believes the \$24,344 in direct costs questioned are allowable but noted that those costs should have been accounted for as participant support costs. It therefore agreed to reimburse the \$7,790 in questioned indirect costs.

Recommendations

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

- 1.1. Resolve the \$24,344 in questioned participant support costs and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2. Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$156,367 in questioned service agreement, participant support, indirect costs applied to participant support, publication, salary, and travel costs for which it has agreed to reimburse NSF.
- 1.3. Direct RPI to create additional resources that provide guidance regarding how to execute requisitions for service agreements to ensure they are appropriately charged to NSF awards.
- 1.4. Direct RPI to create additional resources that provide guidance regarding allowable uses of participant support cost funding. This guidance should address how to ensure participant support cost funds are expended as budgeted and how to request approval to re-budget participant support cost funding from NSF.
- 1.5. Direct RPI to implement additional procedures which require it to verify that a publication acknowledges the NSF funding source(s) charged prior to the expense being charged to NSF award(s).
- 1.6. Direct RPI to strengthen its summer salary appointment processes and procedures to ensure all summer salary payments are supported by certified effort reports and that duplicate salary payments are not made to employees.
- 1.7. Direct RPI to update its travel policies and procedures to address the allowability of no-show and early departure expenses as well as the importance of reserving travel at the most economical rate.

Rensselaer Polytechnic Institute Response: RPI agreed to reimburse NSF for \$156,367 in unallowable expenses but disagreed with the remaining \$24,344 in questioned costs charged to NSF Award No. [REDACTED]. Specifically, RPI agreed to reimburse NSF for the \$7,790 in indirect costs it agreed were inappropriately applied to participant support costs. However, it noted that the \$24,344 in questioned direct participant support costs should be allowable because the PI received approval from the NSF Program Director to use participant support cost funding remaining on the NSF Award to support other events held during the RDA Plenary conference. RPI acknowledged the revised budget request was rejected by the Grant Officer in Fastlane but noted that it believes these costs should be allowable because RPI received conflicting guidance from NSF.

Auditors' Additional Comments: Our position regarding this finding has not changed. Specifically, regarding the \$24,344 in questioned costs that RPI did not agree with: because

RPI’s proposed budget revision was rejected in Fastlane by the NSF Grant Officer, whose approval is required to re-budget participant support costs, our position regarding this finding has not changed.

FINDING 2: INAPPROPRIATELY ALLOCATED EXPENSES

RPI did not always allocate expenses to NSF awards based on the relative benefits the awards received, as required by both federal regulations¹⁸ and NSF PAPPGs.¹⁹ As a result, RPI inappropriately charged five NSF awards a total of \$8,407 in inappropriately allocated publication, materials and supplies, and travel expenses.

Inappropriately Allocated Publication Expenses

RPI charged three NSF awards for \$5,928 in publication expenses²⁰ that appear to have been allocated to the awards based on the availability of funding sources,²¹ rather than based on the relative benefits received by each NSF award, as illustrated in Table 9.

Table 9: Inappropriately Allocated Publication Expenses

Expense Date	NSF Award No.	Amount Charged	Percentage Allocable	Inappropriately Allocated Amount	Notes
March 2019	██████████	\$6,885	50%	\$3,443	a
May 2019	██████████	2,430	33.33	1,620	b
December 2019	██████████	1,730	50	865	c

Source: Auditor summary of identified exceptions.

- a) In March 2019, RPI charged NSF Award No. ██████████ for \$6,885—or 100 percent—of the expenses incurred to publish a research article that acknowledged two funding sources. As the PI acknowledged that both grants contributed to the project, these costs do not appear to have been appropriately allocated to the single NSF award. We are therefore questioning \$3,443—or 50 percent—of costs associated with this publication expense.

¹⁸ According to 2 CFR 220 Appendix A, Section C.4, and 2 CFR § 200.405, *Allocable costs*, (a), a cost is allocable to a particular cost objective (i.e., a specific function, project, sponsored agreement, department, or the like) if the goods or services involved are chargeable or assignable to such cost objective in accordance with relative benefits received.

¹⁹ NSF PAPPGs 14-1 and 16-1, Part II, Chapter V, Section A, *Basic Considerations*, and 17-1, 18-1, and 19-1, Part II, Chapter X, Section A, *Basic Considerations*, state that grantees should ensure all costs charged to NSF awards meet the requirements of the applicable federal cost principles, grant terms and conditions, and any other specific requirements of both the award notice and the applicable program solicitation.

²⁰ According to 2 CFR § 200.461, *Publication and printing costs*, (b), page charges for professional journal publications are allowable where: (1) the publications report work supported by the federal government; and (2) the charges are levied impartially on all items published by the journal, whether or not under a federal award.

²¹ According to 2 CFR § 200.405, *Allocable costs*, (c), costs allocable to a particular federal award may not be charged to other federal awards to overcome fund deficiencies, to avoid restrictions imposed by terms or conditions of federal awards, or for other reasons.

- b) In May 2019, RPI charged NSF Award No. [REDACTED] for \$2,430—or 100 percent—in expenses incurred to publish a research article that acknowledged three funding sources. As the PI acknowledged that all three grants contributed to the research project, and that the other two awards were not charged because they did not have publication funding, these costs do not appear to have been appropriately allocated to the single NSF award. We are therefore questioning \$1,620—or 66.66 percent—of costs associated with this publication expense.
- c) In December 2019, RPI charged NSF Award No. [REDACTED] for \$1,730—or 100 percent—in expenses incurred to publish a research article that acknowledged two NSF funding sources that appear to have benefitted from the publication. As the PI acknowledged that both grants contributed to the research project, these costs do not appear to have been appropriately allocated to the single NSF award. We are therefore questioning \$865—or 50 percent—of costs associated with this publication expense.

Inappropriately Allocated Material Expenses

RPI charged one NSF award for \$2,289 in material expenses that were not reasonably allocated based on the relative benefit the award received, as illustrated in Table 10.

Table 10: Inappropriately Allocated Materials and Supplies

Expense Date	NSF Award No.	Amount Charged	Percentage Allocable	Inappropriately Allocated Amount	Notes
September 2020	[REDACTED]	\$3,434	33.33%	\$2,289	a

Source: Auditor summary of identified exception.

- a) In September 2020, RPI charged NSF Award No. [REDACTED] for \$3,434 in expenses incurred to purchase sensors the PI noted were required to enable future data storage systems to exploit flash memory technology scaling to its full extent. As the sensors were not received until 51 days prior of the award’s expiration date²² and as the PI confirmed the sensors were used to support two other NSF awards, it does not appear reasonable that 100 percent of this expense was charged to this award. We are therefore questioning \$2,289—or 66.66 percent—of costs associated with the materials purchased.

Inappropriately Allocated Travel Expenses

RPI did not appropriately calculate the percentage of a trip that related to personal travel, and as a result inappropriately allocated \$190 of personal travel costs to an NSF award, as illustrated in Table 11.

²² According to NSF PAPPGs 16-1, Part II, Chapter V, Section A.2.c., *Post-End Date Costs*, the grantee typically should not purchase items of **equipment**, computing devices, or restock materials and supplies in anticipation of grant expiration where there is little or no time left for such items to be utilized in the actual conduct of the research.

Table 11: Inappropriately Allocated Travel Expenses

Expense Date	NSF Award No.	Inappropriately Allocated Total	Inappropriately Allocated Expenses Associated With:	Notes
November 2018	██████████	\$190	PI's Personal Travel	a

Source: Auditor summary of identified exception.

- a) In November 2018, RPI inappropriately allocated \$190 in travel costs the PI incurred related to NSF Award No. ██████████. Specifically, RPI stated that it allocated 72.45 percent of a PI's travel costs to the NSF award based on the number of personal versus business travel days in the PI's trip; however, because only 9 of the 13 travel days had a business purpose, RPI should have only allocated 69.23 percent of the travel to the NSF award.²³

Conclusion

RPI did not require personnel to justify—or document its justifications—to support that costs incurred to publish research articles and materials near a grant's expiration date were appropriately allocated to all funding sources that benefitted from the costs incurred. Further, its expense report review procedures did not ensure that costs associated with personal travel were appropriately calculated prior to being removed from employee expense reimbursements.

We are therefore questioning \$8,407 of inappropriately allocated expenses charged to five NSF awards. RPI concurred with \$2,479 of the questioned costs but disagreed with the remaining \$5,928, as illustrated in Table 12.

Table 12: Finding 2 Summary: Inappropriately Allocated Expenses

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			RPI Agreed to Reimburse
			Direct	Indirect	Total	
██████████	March 2019 Publication	2019	\$2,125	\$1,318	\$3,443	\$0
██████████	May 2019 Publication	2019	1,000	620	1,620	-
██████████	December 2019 Publication	2020	534	331	865	-
██████████	September 2020 Materials	2021	2,289	-	2,289	2,289
██████████	November 2018 Personal Travel	2019	117	73	190	190
Total			<u>\$6,065</u>	<u>\$2,342</u>	<u>\$8,407</u>	<u>\$2,479</u>

Source: Auditor summary of identified exceptions.

²³ 9 business-related travel days/13 total travel days = 69.23 percent. 69.23 percent * \$3,643.41 in total travel expenses = \$2,522.36 in travel expenses allocable to NSF Award No. ██████████. \$2,639.65 charged - \$2,522.36 allocable = \$117.29 * 1.62 (indirect cost rate application) = \$190 in questioned costs.

Recommendations

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

- 2.1. Resolve the \$5,928 in questioned inappropriately allocated publication costs for which RPI has not agreed to reimburse NSF and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2. Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$2,479 in questioned materials and travel costs for which it has agreed to reimburse NSF.
- 2.3. Direct RPI to update its processes and procedures to require Principal Investigators or other designated staff to both document and justify the allocation methodologies used when charging expenses to sponsored projects near grant expiration dates.
- 2.4. Direct RPI to produce formal written guidance and provide training on how to assess and document the methodology used to allocate publication costs consistent with the benefits received by acknowledged funding sources.
- 2.5. Direct RPI to strengthen its processes and procedures surrounding the allocation of travel expenses when travelers combine business and personal travel. Updated procedures should ensure that costs are appropriately allocated consistent with the allocation methodology identified.

Rensselaer Polytechnic Institute Response: RPI agreed to reimburse NSF for \$2,479 in inappropriately allocated expenses but disagreed with the remaining \$5,928 in questioned publication costs. Specifically, RPI noted that NSF PAPPGs do not state that publication costs are unallowable when other contributors are acknowledged in publications. Further, RPI noted that NSF has not sustained similar publication findings in past audit reports.

Auditors' Additional Comments: Our position regarding this finding has not changed. With respect to RPI's disagreement with the questioned publication costs, because the basis of our finding is not that the publication costs are unallowable when other contributors are acknowledged, nor that publication costs can only be allowable in instances where only NSF supported the work, RPI's response did not impact our finding. Specifically, we are questioning the publication costs because the relative benefits received by the awards charged do not match the amounts allocated to the awards and because publication expenses are not exempt from the principles of allocation that are outlined in federal and NSF regulations. As RPI did not provide any additional information to support the questioned publication costs were appropriately allocated, our position regarding this finding has not changed.

FINDING 3: ACM\$ DRAWDOWNS EXCEEDED EXPENSES

RPI did not draw down funding in ACM\$ as close as administratively feasible to actual disbursements for one NSF award as required per federal regulations²⁴ and NSF PAPPGs,²⁵ as illustrated in Table 13.

Table 13: ACM\$ Drawdowns That Exceeded Expenses

NSF Award No.	Cash Drawn in ACM\$	Expenses per RPI's GL	Discrepancy	Notes
██████████	\$248,407	\$243,888	\$4,519	a

Source: Auditor summary of identified exception.

- a) RPI drew down \$248,407 in funding on NSF Award No. ██████████ during the audit period; however, its accounting records only supported \$243,888 in net expenses that were posted to the Award. RPI noted that the \$4,519 discrepancy related to a June 5, 2020, payment for which there was no corresponding bill.

Conclusion

RPI's reconciliation procedures were not appropriately performed or reviewed to ensure that cash drawdowns in ACM\$ were based on RPI's immediate cash needs.

We are therefore questioning \$4,519 claimed on one NSF award that was not supported by expenses recorded within RPI's GL; RPI agreed to reimburse these funds, as illustrated in Table 14.

Table 14: Finding 3 Summary: Inappropriate ACM\$ Drawdowns

NSF Award No.	Description	Questioned Costs	RPI Agreed to Reimburse
██████████	Expenses Claimed in ACM\$ That Exceed Accumulated Expenses	\$4,519	\$4,519
Total		<u>\$4,519</u>	<u>\$4,519</u>

Source: Auditor summary of identified exception.

²⁴ According to 2 CFR §215.22(b)(2) and 2 CFR § 200.305(b)(1), the timing and amount of advance payments must be as close as is administratively feasible to the actual disbursements by the non-federal entity for direct program or project costs and the proportionate share of any allowable indirect costs.

²⁵ NSF PAPPG 16-1, Part II, Chapter III, Section C.2.a. states that the timing and amount of cash advances shall be as close as is administratively feasible/practicable to actual disbursements for direct program costs and the proportionate share of any allowable indirect costs. Additionally, NSF PAPPG 16-1, Part II, Chapter III, Section C.1 states that grantees must provide award-level detail when making payment requests through ACM\$.

Recommendations

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

- 3.1 Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$4,519 in questioned excessive Award Cash Management Service drawdowns for which it has agreed to reimburse NSF.
- 3.2 Direct RPI to strengthen the administrative and management internal controls over its Award Cash Management Service reconciliation process. Updated controls should ensure that award reconciliations are appropriately reviewed to ensure RPI does not draw down funds that exceed its NSF award expenses.

Rensselaer Polytechnic Institute Response: RPI noted that this issue was caused by an administrative error and agreed to reimburse NSF for the \$4,519 in questioned costs.

Auditors’ Additional Comments: Our position regarding this finding has not changed.

FINDING 4: INDIRECT COST RATES INAPPROPRIATELY APPLIED

RPI did not apply indirect cost rates consistent with its **Negotiated Indirect Cost Rate** Agreements (NICRAs) when charging direct expenses to three NSF awards. Specifically, RPI did not consistently apply its indirect cost rate to its **Modified Total Direct Cost (MTDC)** base established in RPI’s NICRAs²⁶ consistent with federal regulations.²⁷ As a result, RPI charged \$3,889 in unallowable costs to one NSF award, as illustrated in Table 15.

Table 15: Indirect Cost Rates Not Appropriately Applied

NSF Award No.	Expense Type	Transaction Date	Rate Applied (%)	Appropriate Rate (%)	Inappropriately Applied Indirect Costs	Notes
	Equipment	09/03/2020	26%	0%	\$3,889	a
	Travel	09/07/2018	0	60.2	-	b
	Travel	09/22/2018	0	62	-	c

Source: Auditor summary of identified exceptions.

- a) In September 2020, RPI inadvertently accounted for a \$14,959 computer as a material and supplies expense rather than as equipment, in accordance with RPI’s *Equipment Capitalization Policy*.²⁸ As a result, RPI inappropriately charged \$3,889 in indirect costs to NSF Award No. [REDACTED] and did not include the equipment in its annual inventory.²⁹

²⁶ RPI’s NICRAs, dated May 2, 2016 and January 22, 2020, state that MTDCs shall exclude equipment costs.

²⁷ According to 2 CFR 200.68, *Modified Total Direct Costs (MTDC)*, and 2 CFR 220, Appendix A, Section G.2., *The distribution basis*, equipment shall be excluded from modified total direct costs.

²⁸ RPI’s *Equipment Capitalization Policy* states that all items of equipment, furniture or systems of equipment with an acquisition cost of \$3,000 or greater are evaluated for **capitalization**.

²⁹ According to RPI’s *Capital Equipment Policy*, the Controller’s Office inventories all movable capital equipment that has a value of \$3,000 or more and an estimated life of 1 year or more.

- b) In September 2018, RPI inappropriately charged \$1,789 in travel costs the PI incurred to attend an NSF Award No. [REDACTED]-related conference to an account that was excluded from RPI's MTDC base. Although this was consistent with the NSF Award No. [REDACTED] budget, which did not include any funding for indirect costs, it was not consistent with RPI's NICRA.
- c) In September 2018, RPI inappropriately charged \$1,470 in travel costs the PI incurred to attend an NSF Award No. [REDACTED]-related conference to an account that was excluded from RPI's MTDC base.

Conclusion

RPI's internal controls did not consistently ensure it appropriately charged equipment costs to account codes that were correctly excluded from its MTDC base or that employee travel costs were included in its MTDC base, consistent with its NICRAs and internal procedures.

We are therefore questioning \$3,889 in inappropriately applied indirect costs, which RPI agreed to reimburse, and noting two compliance exceptions with respect to indirect costs charged to three NSF awards, as illustrated in Table 16.

Table 16: Finding 4 Summary: Indirect Cost Rates Inappropriately Applied

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			RPI Agreed to Reimburse
			Direct	Indirect	Total	
[REDACTED]	September 2020 Equipment Included in MTDC	2021	\$0	\$3,889	\$3,889	\$3,889
[REDACTED]	September 2018 Travel Not Included in MTDC	2019	-	-	-	-
[REDACTED]	September 2018 Travel Not Included in MTDC	2019	-	-	-	-
Total			<u>\$0</u>	<u>\$3,889</u>	<u>\$3,889</u>	<u>\$3,889</u>

Source: Auditor summary of identified exceptions.

Recommendations

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

- 4.1 Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$3,889 in questioned indirect costs for which it has agreed to reimburse NSF.

- 4.2 Direct RPI to strengthen its monitoring procedures for classifying computer purchases. Updated procedures could include implementing an annual review process for costs over \$3,000 charged to its “Computer Supplies Other/Nonsoftware” account to determine whether the expense should be capitalized per RPI’s *Equipment Capitalization Policy*.
- 4.3 Direct RPI to strengthen its monitoring procedures to ensure it applies its indirect cost rates to all direct costs that should be included within its modified total direct cost base per its Negotiated Indirect Cost Rate Agreements.

Rensselaer Polytechnic Institute Response: RPI agreed to reimburse NSF for the \$3,889 in questioned inappropriately applied indirect costs and stated that additional training will be provided to employees on the use of account codes.

Auditors’ Additional Comments: Our position regarding this finding has not changed.

FINDING 5: INADEQUATELY SUPPORTED EXPENSES

RPI did not provide adequate documentation to support the allocability, allowability, and reasonableness of \$611 in travel expenses charged to two NSF awards during the audit period, as required for the costs to be allowable per federal regulations,³⁰ NSF PAPPGs,³¹ and RPI policies,³² as illustrated in Table 17.

Table 17: Inadequately Supported Travel Expenses

Expense Date	NSF Award No.	Inadequately Supported Expenses	Insufficient Documentation to Support:	Notes
August 2018	██████████	\$151	Additional Lease Fees	a
November 2018	██████████	460	Railway Ticket	b

Source: Auditor summary of identified exceptions.

- a)** In August 2018, RPI charged NSF Award No. ██████████ \$151 more than the expense amount supported by the short-term lease agreement the traveler entered into while participating in a grant-related summer internship program in ██████████.
- b)** In November 2018, RPI charged NSF Award No. ██████████ for \$460 in expenses incurred for a railway pass purchased for grant-related travel in ██████████ that was not supported by a receipt. Rather, RPI provided an e-mail from a travel agent

³⁰ According to 2 CFR § 200.403, *Factors affecting allowability of costs*, (a), for a cost to be allowable, it must be allocable and reasonable for the performance of the federal award. Further, section (g) states that, in order for a cost to be allowable, it must be adequately documented.

³¹ According to NSF PAPPGs 17-1 and 18-1, Part II, Chapter X, Section A, *Basic Considerations*, grantees should ensure that costs claimed under NSF grants are necessary, reasonable, allocable, and allowable under the applicable cost principles, NSF policy, and the program solicitation. Additionally, the grantee organization is responsible for ensuring that all costs charged to NSF awards meet the requirements of the grant terms and conditions.

³² According to RPI’s *Travel and Entertainment Policy*, travel expenses \$35 or greater require a receipt (regardless of payment method).

informally requesting a lump-sum payment for a variety of expenses, including a \$460 railway pass.

Conclusion

RPI’s expense reimbursement review procedures did not ensure that travelers obtained and submitted sufficient documentation to support travel expenses were incurred in compliance with relevant federal, NSF, or RPI policies.

We are therefore questioning \$611 in inadequately supported expenses charged to two NSF awards, as illustrated in Table 18.

Table 18: Finding 5 Summary: Inadequately Supported Expenses

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			RPI Agreed to Reimburse
			Direct	Indirect	Total	
██████████	August 2018 Lease	2019	\$93	\$58	\$151	\$0
██████████	November 2018 Railway Pass	2019	284	176	460	-
Total			<u>\$377</u>	<u>\$234</u>	<u>\$611</u>	<u>\$0</u>

Source: Auditor summary of identified exceptions.

Recommendations

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

- 5.1 Resolve the \$611 in questioned inadequately supported travel expenses for which RPI has not agreed to reimburse NSF and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 5.2 Direct RPI to create additional resources regarding how to review travel expense reimbursement documentation. Training resources should address how reviewers should ensure that travelers appropriately create and maintain the documentation necessary to support travel expenses charged to NSF awards comply with federal, NSF, and RPI policies.

Rensselaer Polytechnic Institute Response: RPI disagreed with this finding, including the \$611 in questioned costs. Specifically:

- Regarding the \$151 in questioned August 2018 lease expense charged to NSF Award No. ██████████ RPI stated that the costs should be allowable, as the receipt showed the total rent due and as the lease agreement stated that there would be an additional fee added to the base rent for utility and service charges.

- Regarding the \$460 in questioned November 2018 railway pass expenses charged to NSF Award No. [REDACTED] RPI stated that the cost should be allowable, as the traveler submitted an email from the travel agency showing the cost of the railway ticket. Further, RPI noted that if the railway was not used, the faculty would have required a different method of transportation, which supports the ticket was purchased.

Auditors’ Additional Comments: Although RPI believes that the \$611 in questioned travel costs should be allowable, our position regarding this finding has not changed. Specifically:

- Regarding the \$151 in questioned August 2018 lease expense charged to NSF Award No. [REDACTED] while RPI provided the utility and services addendum to the rental agreement, as this addendum did not specify the amount of the additional fees, our position regarding this finding has not changed.
- Regarding the \$460 in questioned November 2018 railway pass expenses charged to NSF Award No. [REDACTED] while RPI provided the email from the travel agency requesting funds for the ticket, as the railway expense was not supported by a receipt that supported the amount or fare type for the train ticket, our position regarding this finding has not changed.

FINDING 6: NON-COMPLIANCE WITH RPI POLICIES

RPI did not always comply with—or did not always document its compliance with—its travel and entertainment and labor verification requirements when incurring costs charged to nine NSF awards.

Non-Compliance with RPI’s Travel and Entertainment Policies

RPI employees did not always obtain authorized approval prior to travel,³³ book their travel arrangements through RPI’s booking agencies,³⁴ or obtain lodging receipts that support all charges at the time of check-out,³⁵ as required per RPI’s travel and entertainment policies, as illustrated in Table 19.

Table 19: Non-Compliance with RPI’s Travel and Entertainment Policies

Expense Date	NSF Award No.	Date Expense Report was Approved	Notes
August 2018	[REDACTED]	Approval Not Authorized Prior to Travel	a
October 2018	[REDACTED]	Approval Not Authorized Prior to Travel	
November 2018	[REDACTED]	Approval Not Authorized Prior to Travel	

³³ According to RPI’s *Human Resources Policy Guidelines*, section 1000.1, *Travel and Entertainment Expense Reimbursement*, all reimbursable travel must be authorized in advance of the trip by the person in charge of the department or budgetary unit or appropriate governmental agency.

³⁴ According to RPI’s *Travel and Entertainment Policy*, amended September 2020, section 2.04, *Booking Travel Arrangements*, it is expected (required) that all travelers will use RPI’s two booking companies to fulfill their travel needs.

³⁵ According to RPI’s *Travel and Entertainment Policy*, lodging expenses require a detailed receipt that must show the dates and all charges at the time of check-out.

Expense Date	NSF Award No.	Date Expense Report was Approved	Notes
January 2019		Approval Not Authorized Prior to Travel	
August 2019		Approval Not Authorized Prior to Travel	
February 2020		Approval Not Authorized Prior to Travel	
December 2019		Approval Not Authorized Prior to Travel	
March 2020		Approval Not Authorized Prior to Travel	
November 2018		Travel Arrangements Not Booked Through One of RPI's Booking Agencies	b
March 2020		Travel Arrangements Not Booked Through One of RPI's Booking Agencies	
March 2020		Check-Out Lodging Receipt Not Provided	c

Source: Auditor summary of identified exceptions.

- a) We identified eight instances between August 2018 and February 2020 where RPI travelers did not request or receive approval to travel in advance of taking an NSF award-related trip.
- b) We identified two instances—one in November 2018 and one in March 2020—where travelers did not utilize either of RPI's booking agencies, Concur Solutions and Direct Travel, to book their travel arrangements.
- c) In March 2020, RPI charged NSF Award No. [REDACTED] for lodging costs that were supported by the amount identified on the reservation receipt, but not by a detailed receipt that supported all charges at the time of check-out.

Non-Compliance with RPI Labor Verification Due Dates

Labor verification statements used to support the allowability of salary costs charged to two NSF awards were not certified by the due dates indicated on the statements as required per RPI policy,³⁶ as illustrated in Table 20.

Table 20: Instances of Non-Compliance with RPI's Labor Verification Due Dates

NSF Award No.	Expense Date	Labor Verification Due Date	Labor Verification Approval Date
[REDACTED]	October 2018	03/07/2019	03/11/2019
[REDACTED]	October 2018	03/07/2019	03/20/2019

Source: Auditor summary of identified exceptions.

Conclusion

RPI has not updated the *Travel and Entertainment Expense Reimbursement Policy* section of its *Human Resources Policy Guidelines* to reflect current procedures for travel pre-approval and lodging receipt requirements. Additionally, RPI's current procedures do not ensure

³⁶ According to RPI's *Cost Transfers on Sponsored Agreements Policy*, the labor verification statements are periodically issued per a schedule and must be signed by the appropriate individuals and returned to Research Administration and Finance by the due date indicated on the statement.

that employees consistently comply with its internal travel and labor verification requirements.

Because these instances of non-compliance did not directly result in RPI charging unallowable costs to NSF awards, we are not questioning any costs related to these exceptions. However, we are noting compliance findings for the 13 instances in which RPI did not comply with its internal policies when charging costs to nine NSF awards, as illustrated in Table 21.

Table 21: Finding 6 Summary: Non-Compliance with RPI Policies

NSF Award No.	Compliance Exception Identified	Fiscal Year(s)
	August 2018 No Pre-Authorized Travel	2019
	October 2018 No Pre-Authorized Travel	2019
	November 2018 No Pre-Authorized Travel	2019
	January 2019 No Pre-Authorized Travel	2019
	August 2019 No Pre-Authorized Travel	2020
	February 2020 No Pre-Authorized Travel	2020
	December 2019 No Pre-Authorized Travel	2020
	March 2020 No Pre-Authorized Travel	2020
	November 2018 RPI's Booking Agencies Not Utilized	2019
	March 2020 RPI's Booking Agencies Not Utilized	2020
	March 2020 Check-Out Lodging Receipt Not Provided	2020
	October 2018 Late Labor Verification Statement	2019
	October 2018 Late Labor Verification Statement	2019

Source: Auditor summary of identified exceptions.

Recommendations

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

- 6.1 Direct RPI to update the *Travel and Entertainment Expense Reimbursement Policy* section of its *Human Resources Policy Guidelines* to reflect its current travel requirements.
- 6.2 Direct RPI to provide annual training for employees on travel requirements to ensure travelers are aware of the requirement to utilize RPI-specified booking agencies.
- 6.3 Direct RPI to provide training to staff regarding the importance of completing labor verification statements by the due dates indicated on the statements.

Rensselaer Polytechnic Institute Response: RPI agreed that the traveler who booked the trip charged to NSF Award No. [REDACTED] in November 2018 should have completed a travel exception request but disagreed with the remainder of the exceptions identified. Specifically:

- Regarding the instances where travel was taken without prior authorization, RPI stated that because its travel and entertainment policy does not require authorization in advance of a trip, these should not be exceptions. Specifically, RPI noted that because the policy referenced is found in RPI's human resources manual, which does not govern the specifics of travel, and because it does not require written authorization in advance of a trip, that these exceptions should be removed.
- Regarding the March 2020 instance where a traveler did not use RPI's booking agency, RPI stated that because the lodging section of the policy referenced states that reservations "should be booked" and not that they must be booked using one of RPI's booking agencies, this exception should be removed.
- Regarding the March 2020 instance where a traveler did not provide a lodging receipt from after check-out, RPI stated that this should not be an exception, as the lodging was provided at a home rather than a hotel, and therefore, an itemized receipt could not be provided.
- Regarding the instances where labor verification statements were not certified in a timely manner, RPI stated that because the return dates on the forms are only for guidance purposes, these instances should not be exceptions.

Auditors' Additional Comments: Although RPI believes that 12 of the instances of non-compliance identified should be removed, our position regarding this finding has not changed. Specifically:

- Regarding the instances when travel was taken without prior authorization, because RPI's *Human Resources Policy Guidelines*, section 1000.1, *Travel and Entertainment Expense Reimbursement Policy*, requires pre-approval, our position regarding these exceptions has not changed.
- Regarding the March 2020 instance when RPI did not use its booking agency, because RPI's policy states that reservations "should be booked" using one of RPI's booking agencies unless a conference hotel is required to be booked online and as this instance does not relate to the booking of a conference hotel, our position regarding this exception has not changed.
- Regarding the March 2020 instance when RPI did not provide a lodging check-out receipt, because RPI's policies state that lodging expenses must be supported by a detailed receipt that shows the dates and all charges at the time of check-out, our position regarding this exception has not changed.
- Regarding the instances where labor verification statements were not certified in a timely manner, because RPI policy states that labor verification statements "must be signed by the appropriate individuals and returned to RA&F by the due date

indicated on the statement,” our position regarding these exceptions has not changed.

AREA FOR IMPROVEMENT: APPLYING PROPOSED INDIRECT COST RATES

RPI does not have a formally documented policy or procedure in place to ensure it, or its subawardees, consistently apply indirect costs using the NICRA rate(s) in effect as of the NSF award date or documents its determination to apply its proposed indirect cost rate.

As a result, RPI and one of its subawardees applied the indirect cost rates effective at the time four NSF grants were proposed without documenting that it verified its use of the proposed indirect cost rates would not result in indirect costs being overcharged to the NSF award, as illustrated in Table 24.

Table 22: Proposed Indirect Cost Rates Applied

NSF Award Number	NSF Award Date	Transaction Date(s)	Rate Applied (%)	Appropriate Rate (%)
██████	01/17/2014	10/11/2018	60.2%	62.0%
		07/28/2020		
██████	08/15/2019	10/13/2020	62.0	64.5
██████	07/08/2019	06/03/2021	62.0	64.5
		06/30/2021		
██████	09/12/2008	11/16/2018	44.0	47.0

Source: Auditor summary of identified areas for improvement.

Conclusion

Because RPI was able to demonstrate it and its subawardee made the decision to not apply its newly negotiated higher rates, and because these instances of RPI and a subawardee applying indirect costs at proposed rates did not directly result in charging unallowable costs to NSF awards, we are not noting a finding. However, we are noting an area for improvement, as RPI’s lack of a formal process and/or procedure for applying, and allowing its subawardees to apply, proposed indirect cost rates could cause it to charge unallowable costs to NSF awards if RPI’s or its subawardee’s indirect cost rates were to decrease in the future.

Consideration

We suggest that NSF’s Director of the Division of Institution and Award Support consider:

- Directing RPI to develop formal policies/procedures regarding how to verify—and how to document verification of—its election to, and its subawardee’s election to, use proposed indirect cost rates will not result in NSF being overcharged for

indirect costs when negotiated rates decrease between the date an NSF award is proposed and the date it is awarded.

Rensselaer Polytechnic Institute Response: RPI agreed to take this suggestion into consideration.

Auditors' Additional Comments: Our position regarding this area for improvement has not changed.

COTTON & COMPANY ASSURANCE AND ADVISORY, LLC



Megan Mesko, CPA, CFE
Partner
March 15, 2023

APPENDIX A: RPI'S RESPONSE



Rensselaer

March 3, 2023

Cotton & Company
333 John Carlyle Street, Suite 500
Alexandria, VA 22314

Dear Ms. Mesko,

Rensselaer Polytechnic Institute (RPI) appreciates the work performed by Cotton & Company and the National Science Foundation's Office of Inspector General as this report provides us an opportunity to further improve our management and oversight of NSF sponsored projects, which we take very seriously.

RPI has reimbursed NSF \$155,220 and is currently processing additional credits of \$12,034. RPI does not support \$30,883 of the questions costs in the report. We will work with NSF to resolve the recommendations in the report and continue to enhance our control environment.

Sincerely,

A black rectangular redaction box covering the signature of Kelli Perry.

Kelli Perry
Associate Vice President for Finance and Controller
Rensselaer Polytechnic Institute

Finding 1: Unallowable Expenses

In general, Rensselaer (RPI) believes it has robust and appropriate controls in place for adequate review and approval of expenses charged to NSF awards to ensure they are allowable, allocable, reasonable and necessary. While there were some identified human errors which caused instances of unallowable costs (which RPI has agreed to reimburse,) there were other findings noted in the auditor's report with which RPI has contended are not accurate and some questioned costs that RPI does not support as there is a belief they are within policy guidelines.

AWARDS	AMOUNT	RPI RESPONSE
██████████	\$116,664	Upon review of the support for this charge during the audit, it was determined that it should not have been incurred against the grant. An error made by a new staff member processing the requisition was not identified by approvers. As this is still an active grant, Rensselaer moved the charge off the grant and processed a reimbursement to NSF on December 17, 2021. Additional training will be provided to employees processing transactions.
██████████	\$22,358	Upon review of the support for this charge during the audit, it was determined that it should not have been incurred against the grant. Salary costs were applied to the incorrect fund and as a result overhead was automatically charged. The transaction was adjusted and the funds credited back to NSF on July 8, 2022. Additional training will be provided to employees processing transactions.
██████████	\$32,134	Rensselaer does not support this finding. The meetings that this grant supported (iN2N) were held during a co-located event at the RDA 13th Plenary Conference in Philadelphia in April 2019 and the preponderance of iN2N participants attended the conference. Rensselaer contends that the costs charged support this conference (specifically meals, which iN2N participants received and should be considered participant support costs.) Rensselaer also reached out to the NSF Program Director and asked if the grant could be used to cover more support for the RDA Plenary (in which all of the iN2N participants were actively engaged). The Program Director approved that requested via email. As Cotton mentioned in their report, when RPI submitted a revised budget in Fastlane, it was rejected by the Grant Officer, which resulted in conflicting guidance from NSF regarding the same question. Rensselaer believes that this amount should be allowed as participant support costs. Because the amount was initially incorrectly coded as a direct cost, Rensselaer returned the \$7,790 of indirect to NSF on August 18, 2022.
██████████	\$3,653	NSF is mentioned on page 7 of the publication in question. Although the specific award number was not mentioned in the publication, we believe this publication did benefit the award. Rensselaer concurs with the finding that the specific administrative requirements for publication expenses were not fulfilled. Additional training will be provided to RPI faculty to ensure they are aware of these specific administrative requirements.

██████████	\$1,602	PI acknowledged inadvertently not mentioning NSF in the publication. As a result of Rensselaer not being compliance with the NSF requirement, Rensselaer agrees with this finding and is currently processing a reimbursement to NSF. Training will be provided to PI's going forward to ensure they are aware of the administrative requirements for allocating publication costs to NSF awards.
██████████	\$1,782	We were unable to locate this verification in our records however believe that the work performed by the graduate student did indeed benefit the award. When the job was established, it was set-up with PI approval to charge the NSF award. As a result of not being able to provide the support after the charge, Rensselaer has agreed to reimburse the amount of this finding.
██████████	\$464	2 CFR § 200.475 has no prescriptions regarding how far in advance a flight must be booked and nor does NSF's PAPPG. Rensselaer is located in Troy, New York and the cost of flights are typically higher than they would be at larger airports across the country. In addition, booking refundable fares are often more expensive, and our faculty frequently need to adjust schedules extemporaneously. That said, Rensselaer has agreed to reimburse the amount of this finding.
██████████	\$1,542	Rensselaer agrees with these findings and is currently processing a reimbursement to NSF.
██████████ ██████████ ██████████	\$263 \$249	In response to the findings on awards ██████████ and ██████████ RPI travel expense approvers will receive additional training regarding required documentation for these types on charges on federal awards.

Finding 2: Inappropriately Allocated Expenses

AWARDS	AMOUNT	RPI RESPONSE
██████████ ██████████ ██████████	\$3,443 \$1,620 \$865	<p>NSF allows for grantees to propose and receive publication costs. NSF's PAPPG states that proposals may request funds for the costs of documenting, preparing, publishing, or otherwise making available to others the findings and products of the work to be conducted under the grant. It does not state that these costs are unallowable when other contributors are acknowledged in publications.</p> <p>To limit allowable publication costs to instances where only NSF supported the work seems unreasonable (nor supported explicitly by NSF rules) for the following reasons:</p> <ul style="list-style-type: none"> • Academic research frequently involves collaborations across projects and is supported by broader pool of active and past funding sources, meaning that publications frequently acknowledge funding from multiple sources. • If prior funding had supported the work, or a portion of datasets analyzed within a publication, those sources would

		<p>still be acknowledged (even if the support was no longer active).</p> <ul style="list-style-type: none"> Some funding sources may not allow or include publication costs. Pilot/seed funding frequently is an example of where NSF projects benefit from being mixed with other sources of funding. <p>In addition, these findings do not align with past NSF OIG precedent. In NSF OIG’s November 2022 letter regarding the review and resolution of NSF OIG Report No. 22-1-004, NSF did not sustain similar findings (inappropriate allocation of publication expenses based on relative benefits the award received in cases where multiple funding sources were cited). Specifically, NSF OIG stated: “NSF does not sustain the finding. NSF does not agree that publication acknowledgements necessarily represent the relative benefits received for the purpose of allocating publication expenses.”</p>
██████	\$2,289	Rensselaer agrees with this finding as the equipment is currently being used to support two other NSF awards and is currently processing a reimbursement to NSF.
██████	\$190	Rensselaer agrees with this finding and is currently processing a reimbursement to NSF. RPI will reinforce how travelers are required to provide documentation to support allocations and travel expense approvers will be reminded of how to review allocation methods for these types on charges on federal awards.

Finding 3: Award Cash Management Drawdowns Exceeded Expenses

AWARD	AMOUNT	RPI RESPONSE
██████	\$4,519	Upon review of the support for this draw during the audit, it was determined to be an administrative error. Rensselaer processed the reimbursement to NSF on October 21, 2021.

Finding 4: Indirect Cost Inappropriately Applied

AWARDS	AMOUNT	RPI RESPONSE
██████	\$3,889	Upon review of the support for this charge during the audit, it was determined that an incorrect account code was used and as a result indirect charges automatically where charged. As this is still an active grant, after discovering this error, Rensselaer moved the charge to the correct account code and processed the reimbursement to NSF on March 7, 2022.
██████ ██████	\$0	Upon review of the support for this charge during the audit, it was determined that an incorrect account code was used and as a result

		indirect costs were not applied. Additional training will be provided to employees on the use of account codes.
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Finding 5: Inadequately Supported Expenses

AWARDS	AMOUNT	RPI RESPONSE
██████████	\$151	Rensselaer does not support this finding. The traveler submitted a receipt showing the total amount of the rent due. The lease agreement clearly stated that there would be an additional fee added to the base rent for utility and service fee but on a sliding scale.
██████████	\$460	Rensselaer does not support this finding. The traveler submitted an email from the travel agent showing the cost of the railway ticket. Rensselaer considers this sufficient evidence to support this expense as there would have been additional transportation expenses submitted if the railway was not used because the faculty would have needed transportation.

Finding 6: Non-Compliance with RPI Policies

AWARDS	RPI RESPONSE
██████████	Rensselaer does not support this finding. Rensselaer's Travel and Entertainment policy does not require authorization in advance of a trip. The statement that the auditors are quoting in this observation is from our Human Resources manual and does not govern the specifics of travel. In fact, the HR manual references the T&E policy. The HR manual also does not require written authorization in advance of a trip, it is simply referring to making sure that the person in charge of the department is aware that the traveler will be out of the office on business. This statement will be removed from the HR manual.
██████████	Rensselaer agrees with this finding. The traveler should have obtained an exception to policy if he was not going to use the approved booking processes. The traveler has been reminded of the policy requirement.
██████████	Rensselaer does not support this finding. Understanding the policy reference the auditors have quoted here, the reader also needs to consider the lodging section of the policy, as it states that reservations "should be booked" not must be booked. Specifically, the policy says that all lodging reservations should be booked through Direct Travel or on-line using the Concur booking tool, unless a conference hotel is required to be booked online with the conference hotel. If a conference hotel is required, the traveler can either book the hotel online at the hotel site and be reimbursed or call the travel agency and give them the information to make the reservation. In the case of this conference this would have been allowable per policy.
██████████	Rensselaer does not support this finding. The hotel in this case was a home, not a hotel. There was not an itemized receipt that could be provided. The days and amount are clearly shown on the receipt and the PI itemized the amount in Concur when submitting for reimbursement as is required by the system.

<p>██████████ ██████████</p>	<p>Rensselaer does not support these findings. The labor was verified as appropriate. The return dates on the forms are for guidance purposes. If forms are not received, a member of the ██████████ staff follows up until the forms are returned. Rensselaer is in the process of reviewing the labor verification process to determine if process efficiencies can be identified.</p>
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Area for Improvement: Applying Proposed Indirect Cost Rates

AWARDS	RPI RESPONSE
<p>██████████</p>	<p>RPI will take this recommendation into consideration. The provisional rate at the time of award was applied (as it was used in RPI’s NSF proposal and awarded at the same dollar amount, and where RPI elected to charge the rate referenced in the proposal – thus providing voluntary committed cost share consistent with both OMB and NSF rules). Had RPI’s final rate decreased from when the proposal was submitted or from the provisional rate at the time of award, upon award setup (or rate increase), as a part of RPI’s current process, a budget reconciliation would have been performed to align to that new (decreased rate). In NSF OIG’s June 2022 letter regarding the review and resolution of NSF OIG Report No. 21-1-013, NSF did not sustain similar findings and agreed that auditee who made similar determinations had adequate internal controls in place.</p>
<p>██████████</p>	<p>As with RPI awards referenced in the instances above (which applied rates used during the time of proposal and which were awarded for the same dollar amount, and where RPI elected to charge the rate referenced in the proposal – thus providing voluntary committed cost share consistent with both OMB and NSF rules), in this instance the sub-awardee budget (submitted through Fastlane) used 44% at the time of proposal and was awarded at the same dollar amount. This budget was incorporated into RPI’s subaward and the subaward charged this rate throughout the life of award as demonstrated in its invoices to RPI. NSF OIG has not sustained similar findings in the past. In NSF OIG’s June 2022 letter regarding the review and resolution of NSF OIG Report No. 21-1-013, NSF did not sustain similar findings and agreed that auditee who made similar determinations had adequate internal controls in place.</p>

APPENDIX B: OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES

The NSF OIG Office of Audits engaged Cotton & Company Assurance and Advisory, LLC (referred to as “we”), to conduct an audit survey, the objectives of which were to evaluate Rensselaer Polytechnic Institute’s (RPI’s) award management environment; to determine if costs claimed on NSF awards are allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and applicable federal financial assistance requirements; to determine whether any further audit work was warranted and recommend a path forward as described in the task order Performance Work Statement; and to perform any additional audit work as determined appropriate.

SCOPE

The audit population included approximately \$37.7 million in expenses RPI claimed on 239 NSF awards during our audit period of performance (POP) of September 9, 2018, to September 10, 2021.

METHODOLOGY

Based on the objectives and scope of the audit, we conducted this engagement in two phases, as follows:

Audit Survey Phase

After obtaining NSF OIG’s approval for our audit plan, we performed the audit survey steps outlined in the original audit plan. Generally, these steps included:

- Assessing the reliability of the general ledger (GL) data that RPI provided by comparing the costs charged to NSF awards per RPI’s accounting records to the reported net expenditures reflected in the Award Cash Management Service (ACM\$) drawdown requests.
 - Our work required us to rely on computer-processed data obtained from RPI and NSF OIG. NSF OIG provided the award data that RPI reported through ACM\$ during our audit period.
 - We assessed the reliability of the GL data that RPI provided by: (1) comparing the costs charged to NSF awards per RPI’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that RPI submitted to NSF during the audit survey POP; and (2) reviewing the parameters that RPI used to extract transaction data from its accounting systems. We identified several discrepancies between the amounts supported by RPI’s GL and the amounts that RPI claimed per NSF’s ACM\$ system; however, we found RPI’s computer-processed data to be sufficiently reliable for the purposes of the audit survey, as RPI was able to provide justifications or additional transaction-level detail for all discrepancies identified and we did not identify any issues with the parameters that RPI used to extract the accounting data.

- We found NSF’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 NSF’s databases 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 2021 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.
 - RPI provided detailed transaction-level data to support \$37,708,575 in costs charged to NSF awards during the period, which was more than the \$37,693,501 RPI claimed in ACM\$ during the audit period. This data resulted in a total audit universe of \$37,765,898³⁷ in expenses claimed on 239 NSF awards.
 - While RPI provided additional GL data to support a majority of these unsupported expenses, we questioned the remainder of the ACM\$ draws that RPI was unable to support in Finding 4.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information RPI and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, and RPI-specific policies and procedures surrounding costs budgeted for or charged to NSF awards and identifying the controls in place to ensure that costs charged to sponsored projects were reasonable, allocable, and allowable.
 - In planning and performing this audit, we considered RPI’s internal controls, within the audit’s scope, solely to understand the directives or policies and procedures RPI has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, and RPI policies.
- Evaluating the strengths and weaknesses of the policies and procedures that RPI has in place to control the inherent, fraud, and control risks identified for each budget category.
- Providing RPI with a list of 42 transactions that we selected based on the results of our data analytics and requesting that RPI provide documentation to support each transaction.

³⁷ The final audit universe was calculated by adding in adjustments in ACM\$ and the additional GL data that RPI provided.

- Reviewing the supporting documentation RPI provided and requesting additional documentation as necessary to ensure we obtained sufficient, appropriate evidence to assess the allowability of each sampled transaction under relevant federal,³⁸ NSF,³⁹ and RPI policies.⁴⁰
- Holding virtual interviews and walkthroughs with RPI in February 2022 to discuss payroll (including effort reporting), fringe benefits, travel, participant support costs, procurement, equipment (including an inventory check), Graduate Research Fellowship Program (GRFP), other direct costs (e.g., patent, relocation, recruiting, interest, advertising/public relations, entertainment, fundraising, lobbying, selling/marketing, and training costs), grant close-out procedures, subawards, ACM\$ processing, indirect costs, and other general policies (e.g., pre- and post-award costs, program income, whistle-blower information, research misconduct, and conflict of interest policies).
- Preparing an organizational risk assessment that: (1) summarized the results of our planning/initial fieldwork; (2) included areas of elevated risk of noncompliance that we identified in the organization’s award management environment; and (3) contained our recommendations for expanded testing.

Expanded Testing Audit Phase

Based on the areas of elevated risk of noncompliance identified during the audit survey phase, we determined that we should perform further audit procedures that included:

- Conducting additional data analytics, evaluating the results of the analytics, and re-running analytical tests, as necessary.
- Selecting an additional audit sample of 40 transactions.
- Conducting additional fieldwork, which included providing the list of 40 transactions to RPI and requesting and reviewing supporting documentation until we had obtained sufficient, appropriate evidence to enable us to assess the allowability of each sampled transaction.
- Conducting additional audit work in four areas to evaluate whether RPI: (1) appropriately re-budgeted participant support costs; (2) appropriately charged

³⁸ We assessed RPI’s compliance with 2 Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 CFR Part 215, Uniform Administration Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations (Office of Management and Budget [OMB] Circular A-110), and 2 CFR Part 220, Cost Principles for Educational Institutions (OMB Circular A-21), as appropriate.

³⁹ We assessed RPI’s compliance with NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 11-1, 13-1, 14-1, 15-1, 16-1, 17-1, 18-1, 19-1, and 20-1 and with NSF award-specific terms and conditions, as appropriate.

⁴⁰ We assessed RPI’s compliance with its internal policies and procedures surrounding costs budgeted for or charged to NSF awards.

summer salary expenses; (3) appropriately allocated publication costs across all funding sources that contributed to the publication; and (4) appropriately issued and monitored subawards to ensure subawardees claimed the Negotiated Indirect Cost Rate Agreement (NICRA)-approved indirect cost rates.

At the conclusion of our fieldwork, we provided a summary of our results to NSF OIG personnel for review. We also provided the summary to RPI personnel to ensure that RPI was aware of each of our findings and that it did not have additional documentation to support the questioned costs.

We conducted this performance audit in accordance with *Generally Accepted Government Auditing Standards* (GAGAS) issued by the Comptroller General of the United States. 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.

APPENDIX C: SUMMARY OF QUESTIONED COSTS

Appendix C, Table 1: Schedule of Questioned Costs by Finding

Finding	Description	Questioned Costs		Total
		Unsupported	Unallowable	
1	Unallowable Expenses	\$0	\$180,711	\$180,711
2	Inappropriately Allocated Expenses	-	8,407	8,407
3	ACM\$ Drawdowns Exceeded Expenses	4,519	-	4,519
4	Indirect Cost Rates Inappropriately Applied	-	3,889	3,889
5	Inadequately Supported Expenses	-	611	611
6	Non-Compliance with RPI Policies	-	-	-
Total		<u>\$4,519</u>	<u>\$193,618</u>	<u>\$198,137</u>

Source: Auditor summary of questioned costs by finding.

Appendix C, Table 2: Summary of Questioned Costs by NSF Award Number

NSF Award No.	No. of Exceptions	Questioned Direct Costs	Questioned Indirect Costs	Questioned Total	RPI Agreed to Reimburse
	1	\$0	\$0	\$0	\$0
	1	-	-	-	-
	1	189	60	249	249
	1	1,000	602	1,602	1,602
	3	727	-	727	727
	1	-	-	-	-
	1	-	-	-	-
	1	14,459	7,899	22,358	22,358
	1	1,000	620	1,620	-
	1	2,255	1,398	3,653	3,653
	1	4,519	-	4,519	4,519
	1	2,289	-	2,289	2,289
	1	2,125	1,318	3,443	-
	3	-	-	-	-
	4	401	249	650	190
	1	72,015	44,649	116,664	116,664
	2	93	58	151	-
	1	1,100	682	1,782	1,782
	1	-	-	-	-
	1	952	590	1,542	1,542
	2	-	-	-	-
	1	24,344	7,790	32,134	7,790
	1	534	331	865	-
	1	-	-	-	-
	1	-	3,889	3,889	3,889
Total	<u>34</u>	<u>\$128,002</u>	<u>\$70,135</u>	<u>\$198,137</u>	<u>\$167,254</u>

Source: Auditor summary of questioned costs by NSF award number.

Appendix C, Table 3: Summary of Questioned Costs by NSF Award Number and Expense Description

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	RPI Agreed to Reimburse
1) Unallowable Expenses	██████████	October 2019 Service Agreement	\$72,015	\$44,649	\$116,664	\$116,664
	██████████	December 2016-August 2021 Participant Support Funds	14,459	7,899	22,358	22,358
	██████████	June 2019 Participant Support Funds	24,344	7,790	32,134	7,790
	██████████	November 2018 Publication	2,255	1,398	3,653	3,653
		July 2020 Publication	1,000	602	1,602	1,602
	██████████	October 2018 Salary	1,100	682	1,782	1,782
		July 2021 Salary	952	590	1,542	1,542
	██████████	August 2018 Airfare	464	-	464	464
	██████████	September 2018 Lodging	263	-	263	263
2) Inappropriately Allocated Expenses	██████████	June 2019 Lodging	189	60	249	249
	██████████	March 2019 Publication	2,125	1,318	3,443	-
		May 2019 Publication	1,000	620	1,620	-
		December 2019 Publication	534	331	865	-
	██████████	September 2020 Materials and Supplies	2,289	-	2,289	2,289
██████████	November 2018 Personal Travel	117	73	190	190	
3) ACM\$ Drawdowns Exceeded Expenses	██████████	Expenses Claimed in ACM\$ That Exceed Accumulated Expenses	4,519	-	4,519	4,519
4) Indirect Cost Rates Inappropriately Applied	██████████	September 2020 Equipment Included in MTDC	-	3,889	3,889	3,889
	██████████	September 2018 Travel Not Included in MTDC	-	-	-	-
	██████████	September 2018 Travel Not Included in MTDC	-	-	-	-
	██████████	August 2018 Lease	93	58	151	-

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	RPI Agreed to Reimburse
5) Inadequately Supported Expenses	██████	November 2018 Railway Pass	284	176	460	-
6) Non-Compliance with RPI Policies	██████	August 2018 No Pre-Authorized Travel	-	-	-	-
	██████	October 2018 No Pre-Authorized Travel	-	-	-	-
	██████	November 2018 No Pre-Authorized Travel	-	-	-	-
	██████	January 2019 No Pre-Authorized Travel	-	-	-	-
	██████	August 2019 No Pre-Authorized Travel	-	-	-	-
	██████	February 2020 No Pre-Authorized Travel	-	-	-	-
	██████	December 2019 No Pre-Authorized Travel	-	-	-	-
	██████	March 2020 No Pre-Authorized Travel	-	-	-	-
	██████	November 2018 RPI's Booking Agencies Not Utilized	-	-	-	-
	██████	March 2020 RPI's Booking Agencies Not Utilized	-	-	-	-
	██████	Check-Out Lodging Receipt Not Provided	-	-	-	-
	██████	October 2018 Late Labor Verification Statement	-	-	-	-
	██████	October 2018 Late Labor Verification Statement	-	-	-	-
	Total			<u>\$128,002</u>	<u>\$70,135</u>	<u>\$198,137</u>

Source: Auditor summary of identified exceptions.

APPENDIX D: SUMMARY OF RECOMMENDATIONS AND CONSIDERATIONS

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

- 1.1. Resolve the \$24,344 in questioned participant support costs and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2. Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$156,367 in questioned service agreement, participant support, indirect costs applied participant support, publication, salary, and travel costs for which it has agreed to reimburse NSF.
- 1.3. Direct RPI to create additional resources that provide guidance regarding how to execute requisitions for service agreements to ensure they are appropriately charged to NSF awards.
- 1.4. Direct RPI to create additional resources that provide guidance regarding allowable uses of participant support cost funding. This guidance should address how to ensure participant support cost funds are expended as budgeted and how to request approval to re-budget participant support cost funding from NSF.
- 1.5. Direct RPI to implement additional procedures which require it to verify that a publication acknowledges the NSF funding source(s) charged prior to the expense being charged to NSF award(s).
- 1.6. Direct RPI to strengthen its summer salary appointment processes and procedures to ensure all summer salary payments are supported by certified effort reports and that duplicate salary payments are not made to employees.
- 1.7. Direct RPI to update its travel policies and procedures to address the allowability of no-show and early departure expenses as well as the importance of reserving travel at the most economical rate.
- 2.1. Resolve the \$5,928 in questioned inappropriately allocated publication costs for which RPI has not agreed to reimburse NSF and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2. Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$2,479 in questioned materials and travel costs for which it has agreed to reimburse NSF.
- 2.3. Direct RPI to update its processes and procedures to require Principal Investigators or other designated staff to both document and justify the allocation methodologies used when charging expenses to sponsored projects near grant expiration dates.
- 2.4. Direct RPI to produce formal written guidance and provide training on how to assess and document the methodology used to allocate publication costs consistent with the benefits received by acknowledged funding sources.

- 2.5. Direct RPI to strengthen its processes and procedures surrounding the allocation of travel expenses when travelers combine business and personal travel. Updated procedures should ensure that costs are appropriately allocated consistent with the allocation methodology identified.
- 3.1 Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$4,519 in questioned excessive Award Cash Management Service drawdowns for which it has agreed to reimburse NSF.
- 3.2 Direct RPI to strengthen the administrative and management internal controls over its Award Cash Management Service reconciliation process. Updated controls should ensure that award reconciliations are appropriately reviewed to ensure RPI does not draw down funds that exceed its NSF award expenses.
- 4.1 Direct RPI to provide documentation supporting that it has repaid or otherwise credited the \$3,889 in questioned indirect costs for which it has agreed to reimburse NSF.
- 4.2 Direct RPI to strengthen its monitoring procedures for classifying computer purchases. Updated procedures could include implementing an annual review process for costs over \$3,000 charged to its "Computer Supplies Other/Nonsoftware" account to determine whether the expense should be capitalized per RPI's *Equipment Capitalization Policy*.
- 4.3 Direct RPI to strengthen its monitoring procedures to ensure it applies its indirect cost rates to all direct costs that should be included within its modified total direct cost base per its Negotiated Indirect Cost Rate Agreement.
- 5.1 Resolve the \$611 in questioned inadequately supported travel expenses for which RPI has not agreed to reimburse NSF and direct RPI to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 5.2 Direct RPI to create additional resources regarding how to review travel expense reimbursement documentation. Training resources should address how reviewers should ensure that travelers appropriately create and maintain the documentation necessary to support travel expenses charged to NSF awards comply with federal, NSF and RPI policies.
- 6.1 Direct RPI to update the *Travel and Entertainment Expense Reimbursement Policy* section of its *Human Resources Policy Guidelines* to reflect its current travel requirements.
- 6.2 Direct RPI to provide annual training for employees on travel requirements to ensure travelers are aware of the requirement to utilize RPI-specified booking agencies.

6.3 Direct RPI to provide training to staff regarding the importance of completing labor verification statements by the due dates indicated on the statements.

Additionally, we suggest that NSF's Director of the Division of Institution and Award Support consider:

- Directing RPI to develop formal policies/procedures regarding how to verify—and how to document verification of—its election to, and its subawardee's election to, use proposed indirect cost rates will not result in NSF being overcharged for indirect costs when negotiated rates decrease between the date an NSF award is proposed and the date it is awarded.

APPENDIX E: GLOSSARY

Allocable cost. A cost is allocable to a particular federal award or other cost objective if the goods or services involved are chargeable or assignable to that federal award or cost objective in accordance with relative benefits received. This standard is met if the cost:

- (a) Is incurred specifically for the federal award.
- (b) Benefits both the federal award and other work of the non-federal entity and can be distributed in proportions that may be approximated using reasonable methods.
- (c) Is necessary to the overall operation of the non-federal entity and is assignable in part to the federal award in accordance with the principles in this subpart. (2 CFR § 200.405).

[Return to the term's initial use.](#)

Allocation. *Allocation* means the process of assigning a cost, or a group of costs, to one or more cost objective(s), in reasonable proportion to the benefit provided or other equitable relationship. The process may entail assigning a cost(s) directly to a final cost objective or through one or more intermediate cost objectives. (2 CFR § 200.4).

[Return to the term's initial use.](#)

Allowable Cost. Except where otherwise authorized by statute, costs must meet the following general criteria in order to be allowable under federal awards:

- (a) Be necessary and reasonable for the performance of the federal award and be allocable thereto under these principles.
- (b) Conform to any limitations or exclusions set forth in these principles or in the federal award as to types or amount of cost items.
- (c) Be consistent with policies and procedures that apply uniformly to both federally-financed and other activities of the non-federal entity. (2 CFR § 200.403).

[Return to the term's initial use.](#)

Capital expenditures. Expenditures to acquire capital assets or expenditures to make additions, improvements, modifications, replacements, rearrangements, reinstallations, renovations, or alterations to capital assets that materially increase their value or useful life. (2 CFR § 200.13).

[Return to the term's initial use.](#)

Equipment. Tangible personal property—including information technology (IT) systems—having a useful life of more than 1 year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-federal entity for financial statement purposes, or \$5,000. (2 CFR § 200.33).

[Return to the term's initial use.](#)

Fringe Benefits. Allowances and services provided by employers to their employees as compensation in addition to regular salaries and wages. Fringe benefits include, but are not limited to, the costs of leave (vacation, family-related, sick, or military), employee insurance, pensions, and unemployment benefit plans. Except as provided elsewhere in these principles, the costs of fringe benefits are allowable provided that the benefits are reasonable and are required by law, non-federal entity-employee agreement, or an establishment policy of the non-federal entity. (2 CFR § 200.431)

[Return to the term's initial use.](#)

Indirect (F&A) Costs. Costs incurred for a common or joint purpose benefitting more than one cost objective, and not readily assignable to the cost objectives specifically benefitted, without effort disproportionate to the results achieved. To facilitate equitable distribution of indirect expenses to the cost objectives served, it may be necessary to establish a number of pools of indirect (F&A) costs. Indirect (F&A) cost pools must be distributed to benefitted cost objectives on bases that will produce an equitable result in consideration of relative benefits derived. (2 CFR § 200.56).

[Return to the term's initial use.](#)

Modified Total Direct Cost (MTDC). All direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward (regardless of the period of performance (POP) of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs. (2 CFR § 200.68).

[Return to the term's initial use.](#)

Negotiated Indirect Cost Rate. Generally charged to federal awards through the development and application of an indirect cost rate. In order to recover indirect costs related to federal awards, most organizations must negotiate an indirect cost rate with the federal agency that provides the preponderance of funding, or Health and Human Services (HHS) in the case of colleges and universities. (NSF Office of Budget, Finance, and Award Management).

[Return to the term's initial use.](#)

Participant Support Costs. Direct costs for items such as stipends or subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with conferences or training projects. (2 CFR § 200.75).

[Return to the term's initial use.](#)

Period of Performance (POP). The time during which the non-federal entity may incur new obligations to carry out the work authorized under the federal award. The federal awarding agency or pass-through entity must include start and end dates of the POP in the

federal award. (2 CFR § 200.77).

[Return to the term's initial use.](#)

Proposal & Award Policies & Procedures Guide (PAPPG). Comprises documents relating to NSF's proposal and award process for the assistance programs of NSF. The PAPPG, in conjunction with the applicable standard award conditions incorporated by reference in award, serve as the NSF's implementation of 2 CFR § 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. If the PAPPG and the award conditions are silent on a specific area covered by 2 CFR § 200, the requirements specified in 2 CFR § 200 must be followed. (NSF PAPPG 20-1).

[Return to the term's initial use.](#)

Publication Costs. Costs for electronic and print media, including distribution, promotion, and general handling of that media. (2 CFR § 200.461).

[Return to the term's initial use.](#)

Reasonable Cost. A cost that, in its nature and amount, does not exceed that which would have been incurred by a prudent person under the circumstances prevailing at the time the decision to incur the cost was made. (2 CFR § 200.404).

[Return to the term's initial use.](#)

Salaries and Wages. Compensation for personal services includes all remuneration, paid currently or accrued, for services of employees rendered during the POP under the federal award, including but not necessarily limited to wages and salaries. (2 CFR § 200.430).

[Return to the term's initial use.](#)

Subawards. An award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a federal award received by the pass-through entity. (2 CFR § 200.92).

[Return to the term's initial use.](#)

Supplies. All tangible personal property other than those described in § 200.33 Equipment. A computing device is a supply if the acquisition cost is less than the lesser of the capitalization level established by the non-federal entity for financial statement purposes or \$5,000, regardless of the length of its useful life. (2 CFR § 200.94).

[Return to the term's initial use.](#)

Travel costs. Expenses for transportation, lodging, subsistence, and related items incurred by employees who are in travel status on official business of the non-federal entity. (2 CFR § 200.474).

[Return to the term's initial use.](#)



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