

Performance Audit of Incurred Costs – Arctic Research Consortium of the United States

REPORT PREPARED BY COTTON & COMPANY ASSURANCE AND
ADVISORY, LLC

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

August 9, 2022
OIG 22-1-011





AT A GLANCE

Performance Audit of Incurred Costs – Arctic Research Consortium of the United States

Report No. OIG 22-1-011

August 9, 2022

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 costs that the Arctic Research Consortium of the United States (ARCUS) incurred on 7 NSF awards as of August 5, 2021. The auditors tested more than \$550,000 of the approximately \$15.5 million of expenses that were posted to ARCUS' general ledger. The objective of the audit was to determine if costs claimed by ARCUS 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 objective, scope, and methodology is attached to the report as Appendix B.

AUDIT RESULTS

The report highlights concerns about ARCUS' compliance with certain federal and NSF award requirements, and ARCUS policies. The auditors questioned \$14,847 of costs claimed by ARCUS during the audit period. Specifically, the auditors found \$8,456 of inadequately supported expenses and \$6,391 of unallowable expenses. The auditors also identified two compliance related findings for which there were no questioned costs: non-compliance with ARCUS policies and a non-compliant financial management system. 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 four findings in the report with associated recommendations for NSF to resolve the questioned costs and ensure that ARCUS strengthens administrative and management controls.

AUDITEE RESPONSE

ARCUS agreed with the majority of the findings in the report. ARCUS's response is attached in its entirety to the report 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: August 9, 2022

TO: Dale Bell
Director
Division of Institution and Award Support

Jamie French
Director
Division of Grants and Agreements

FROM: Mark Bell
Assistant Inspector General
Office of Audits

SUBJECT: Audit Report No. 22-1-011, Arctic Research Consortium of the United States

This memorandum transmits the Cotton & Company Assurance and Advisory, LLC (C&C) report for the audit of costs that the Arctic Research Consortium of the United States (ARCUS) incurred on 7 NSF awards as of August 5, 2021. The audit encompassed more than \$550,000 of the approximately \$15.5 million charged to ARCUS' general ledger during the period. The objective of the audit was to determine if costs claimed by ARCUS 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 objective, 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 Keith Nackerud at 703.292.7100 or OIGpublicaffairs@nsf.gov.

Attachment

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EXECUTIVE SUMMARY

The Cotton & Company audit team determined that the Arctic Research Consortium of the United States (ARCUS) 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 and NSF regulations, NSF award terms and conditions, and ARCUS policies. Specifically, the audit report includes four findings and a total of \$14,847 in questioned costs.

AUDIT OBJECTIVES

The National Science Foundation Office of Inspector General engaged Cotton & Company Assurance and Advisory, LLC to conduct a performance audit of costs that ARCUS incurred on seven awards that either ended or were close to the end of their period of performance. The audit objectives included evaluating ARCUS' award management environment, determining if costs claimed on NSF awards were allowable, allocable, reasonable, and in compliance with relevant Federal and NSF regulations, determining 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 ARCUS' compliance with relevant federal regulations (i.e., 2 Code of Federal Regulations [CFR] 200 and 2 CFR 220); NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 14-1, 15-1, 16-1, 17-1, 18-1, and 19-1; NSF award terms and conditions; and ARCUS 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 \$14,847 of direct and indirect costs that ARCUS inappropriately claimed during the audit period, including:

- \$8,456 of inadequately supported expenses
- \$6,391 of unallowable expenses

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

- Non-compliance with ARCUS policies
- Non-compliant financial management system

RECOMMENDATIONS

The audit report includes 10 recommendations for NSF's Director of the Division of Institution and Award Support related to resolving the \$14,847 in questioned costs and ensuring ARCUS strengthens its award management environment, as summarized in [Appendix D](#).

AUDITEE RESPONSE

ARCUS concurred with the majority of the findings throughout the audit report, agreeing to reimburse NSF for \$9,196 in questioned costs. ARCUS' response is attached, in its entirety, to the report as [Appendix A](#).

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Abbreviations

ACM\$	Award Cash Management Service
ARCUS	Arctic Research Consortium of the United States
CFR	Code of Federal Regulations
FY	Fiscal Year
FMS	Financial Management System
GAGAS	Generally Accepted Government Auditing Standards
GL	General Ledger
NSF	National Science Foundation
OIG	Office of Inspector General
PAPPG	Proposal and Award Policies and Procedures Guide
PI	Principal Investigator
UAF	University of Alaska Fairbanks

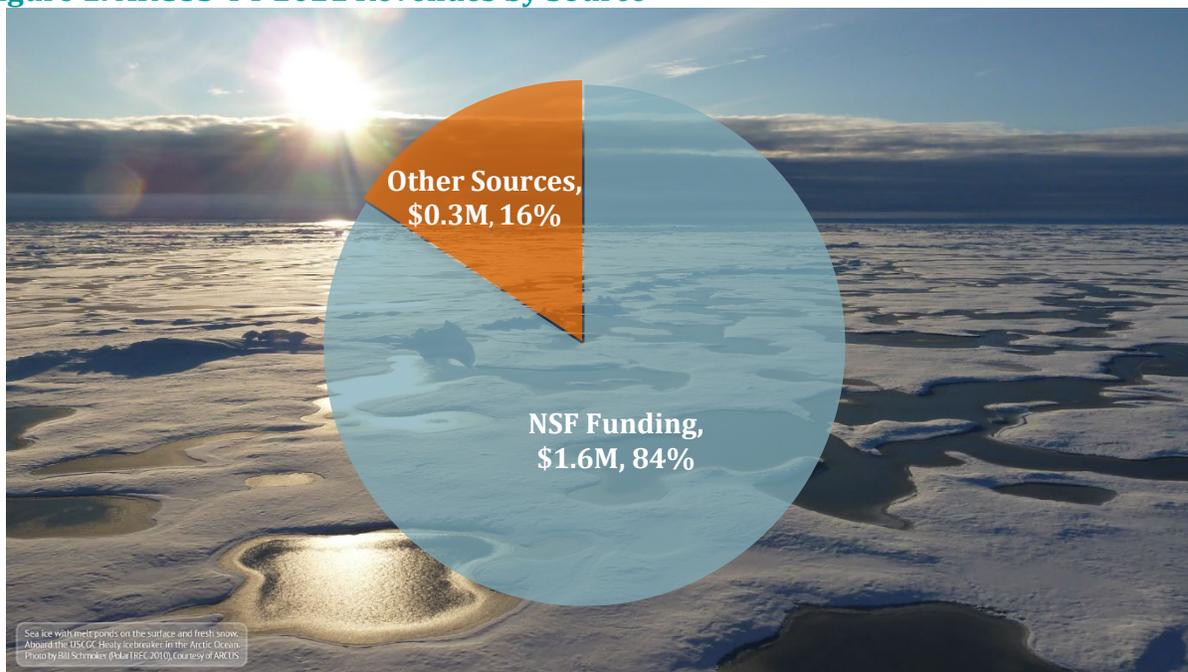
BACKGROUND

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 incurred by the Arctic Research Consortium of the United States (ARCUS). ARCUS is a nonprofit organization consisting of institutions organized and operated for educational, professional, or scientific purposes to advance arctic research and education. ARCUS is located in Fairbanks, Alaska. In fiscal year (FY) 2021, ARCUS reported \$1.9 million in revenue sources, with \$1.6 million from NSF, as illustrated in Figure 1.

Figure 1: ARCUS’ FY 2021 Revenues by Source



Source: The chart data is available on ARCUS’ website (https://www.arcus.org/files/publication/32794/2021_arcus_annual_report.pdf). The photo is publicly available on ARCUS’ website (https://www.arcus.org/files/resource/image/sea_ice_melt_ponds_bill_schmoker.jpg).

AUDIT SCOPE

This performance audit—conducted under Order No. 140D0421F0617—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*, issued by the Comptroller General of the United States.

The objectives of this performance audit were to evaluate ARCUS’ 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 audit objectives, scope, and methodology used for this engagement.

As illustrated in Figure 2, ARCUS provided general ledger (GL) data to support the \$15.3 million in expenses it claimed on seven NSF awards from each award’s inception through August 5, 2021.

Figure 2: Costs ARCUS Claimed on Seven NSF Awards¹



Source: Auditor analysis of accounting data ARCUS provided, illustrating the total costs (\$15,644,885) by expense type, using financial information to support costs incurred on NSF awards during the audit period.

¹ The total award-related expenses that ARCUS reported in its GL exceeded the \$15,334,988 reported in NSF’s Award Cash Management Service (ACM\$). Although ARCUS’ GL data supported \$15,494,325 within our audit period, or \$159,337 more than the total it had claimed in ACM\$, ARCUS was unable to identify which of the expenses reported in its GL were covered by each ACM\$ draw. As a result, we noted a compliance exception and updated the scope of our audit engagement. Refer to [Finding 4 Non-Compliant Financial System](#) and the [Objectives, Scope, and Methodology](#) section of this report for additional details.

We judgmentally selected 45 transactions totaling \$551,043² (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 ³
Consultant Services	5	\$208,806
Subawards	4	96,555
Indirect Costs	1	90,155
Other Direct Costs	8	54,815
Salaries and Wages	9	32,761
Fringe Benefits	2	21,183
Travel	5	18,722
Participant Support Costs	7	18,187
Publications	1	3,900
Materials and Supplies	1	3,149
Computer Services	2	2,810
Total	<u>45</u>	<u>\$551,043</u>

Source: Auditor summary of selected transactions.

AUDIT RESULTS

We identified and questioned \$14,847 in costs that ARCUS charged to three NSF awards. We also identified expenses that ARCUS charged to seven NSF awards that did not result in questioned costs, but resulted in non-compliance with federal, NSF, or ARCUS-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
Inadequately Supported Expenses	\$8,456
Unallowable Expenses	6,391
Non-Compliance with ARCUS Policies	-
Non-Compliant Financial System	-
Total	<u>\$14,847</u>

Source: Auditor summary of findings identified.

² The \$551,043 represents the total value of the 45 transactions selected for transaction-based testing. It does not represent the dollar base of the total costs reviewed during the audit.

³ The expense amounts reported represent the total dollar value of the transactions selected for our sample; they do not include the total **fringe benefits** or **indirect costs** applied to the sampled transactions. However, we tested the fringe benefits and indirect costs for **allowability**.

We made 10 recommendations for NSF’s Director of the Division of Institution and Award Support related to resolving the \$14,847 in questioned costs and ensuring ARCUS strengthens its administrative and management policies and procedures for monitoring federal funds and its financial management system (FMS). We communicated the results of our audit and the related findings and recommendations to ARCUS and NSF OIG. We included ARCUS’ response to this report in its entirety in [Appendix A](#).

FINDING 1: INADEQUATELY SUPPORTED EXPENSES

ARCUS did not provide adequate documentation to support the **allocability**, allowability, and reasonableness of \$8,456 in expenses charged to two NSF awards during the audit period, as required for the costs to be allowable per federal regulations⁴ and [NSF Proposal and Award Policies and Procedures Guides \(PAPPGs\)](#).⁵

Table 3: Inadequately Supported Allocation Methodologies

Expense Date	NSF Award No.	Amount	Amount Allocable to the Award	Notes
August 2015	██████████	\$4,385	Unable to Determine	a
September 2016	██████████	2,203	Unable to Determine	b
September 2020	██████████	1,868	Unable to Determine	c

Source: Auditor summary of identified exceptions.

- a)** In August 2015, ARCUS charged NSF Award No. ██████████ for \$4,385 in software expenses, which represented 75 percent of the total cost of the software. However, ARCUS did not support how it determined that 75 percent of this expense was allocable to this award.
- b)** In September 2016, ARCUS charged NSF Award No. ██████████ for \$2,203 in costs incurred for monthly internet services, which represented 55 percent of the total cost for the services. However, ARCUS did not support how it determined that 55 percent of this expense was allocable to this award.
- c)** In September 2020, ARCUS charged NSF Award No. ██████████ for \$1,868 in costs incurred for monthly internet services, which represented 49.3 percent of the total cost for the services. However, ARCUS did not support how it determined that 49.3 percent of this expense was allocable to this award.

⁴ According to 2 Code of Federal Regulations (CFR) § 200.403, *Factors affecting allowability of costs*, (g), in order for a cost to be allowable, it must be adequately documented. Additionally, 2 CFR § 200.405, *Allocable costs*, (a) states that 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.

⁵ NSF PAPPGs 15-1 and 16-1, Part II, Chapter V, and 19-1, Part II, Chapter X, Section A, *Basic Considerations*, state that expenditures under NSF cost-reimbursement grants are governed by the federal cost principles and must conform with NSF policies where articulated in the grant terms and conditions, grant special provisions, and grantee internal policies.

Conclusion

ARCUS did not have appropriate policies, procedures, or internal controls in place to ensure that it received and maintained adequate documentation to support the allowability of all costs charged to federal awards. Specifically, ARCUS' policies and procedures did not require ARCUS to document or justify the methodology it used to allocate expenses that benefitted multiple funding sources.

We are therefore questioning \$8,456 charged to two NSF awards that ARCUS did not support as reasonable, allocable, or allowable expenses. ARCUS concurred with the \$8,456 in questioned costs, as illustrated in Table 4.

Table 4: Finding 1 Summary: Inadequately Supported Expenses

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			
			Direct	Indirect	Total	ARCUS Agreed to Reimburse
██████	August 2015 Unsupported Software Allocation	2015	\$3,149	\$1,236	\$4,385	\$4,385
██████	September 2016 Unsupported Internet Service Allocation	2016	1,520	683	2,203	2,203
██████	September 2020 Unsupported Internet Service Allocation	2020	1,289	579	1,868	1,868
Total			<u>\$5,958</u>	<u>\$2,498</u>	<u>\$8,456</u>	<u>\$8,456</u>

Source: Auditor summary of identified exceptions.

Recommendations

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

- 1.1. Direct ARCUS to provide documentation supporting that it has repaid or otherwise credited the \$8,456 in questioned software and internet service expenses for which it has agreed to reimburse NSF.
- 1.2. Direct ARCUS to strengthen its policies and procedures for documenting the methodology it uses to allocate expenses to NSF awards, including introducing additional controls to help ensure that it appropriately creates and maintains sufficient documentation to support that ARCUS is charging expenses to NSF awards consistent with the benefits the NSF awards receive.
- 1.3. Direct ARCUS to review all general software and internet service expenses charged directly to NSF awards and identify any other software and internet service expenses that it did not appropriately allocate to NSF awards.

Arctic Research Consortium of the United States Response: Although ARCUS believes that it used a reasonable methodology for assigning charges to multiple awards, ARCUS

acknowledged that it had not sufficiently documented this methodology. As a result, ARCUS agreed to reimburse NSF for these expenses.

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

FINDING 2: UNALLOWABLE EXPENSES

ARCUS charged two NSF awards for \$6,391 in **publication** and meal expenses that are not allowable per federal regulations⁶ or NSF PAPPGs.⁷

Table 5: Unallowable Costs

Expense Date	NSF Award No.	Amount	Unallowable Costs Associated with:	Notes
July 2021	██████████	\$5,651	Publication Expenses	a
February 2018	██████████	740	Social Event	b

Source: Auditor summary of identified exceptions.

- a) In July 2021, ARCUS charged NSF Award No. ██████████ for \$5,651 in publication costs,⁸ which represented 100 percent of the costs ARCUS incurred to publish a research article that broadly acknowledged support from NSF and non-NSF funding sources. Although ARCUS obtained NSF Program Officer approval to broadly cite NSF in the publication rather than referencing specific NSF award numbers, ARCUS did not provide a documented allocation methodology to support that charging the full cost of the publication to this NSF award was allowable.⁹
- b) In February 2018, ARCUS charged NSF Award No. ██████████ for \$740 in expenses that conference attendees claimed for hosting a “social event” without first

⁶ According 2 CFR § 200.403, *Factors affecting the allowability of costs*, in order for a cost to be allowable, it must be reasonable for the performance of the federal award and must be allocable to the award charged.

⁷ NSF PAPPGs 17-1 and 19-1, Part II, Chapter X, Section A, *Basic Considerations*, state that grantees should ensure that 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.

⁸ NSF PAPPG 19-1, Part I, Chapter II, Section C.2.g., *Publication, Documentation and Dissemination*, states that page charges for scientific and engineering journal publications are allowable where the research papers report work supported by NSF.

⁹ According to 2 CFR § 200.461, *Publication and printing costs*, a., if publication costs are not identifiable with a particular cost objective, they should be allocated as indirect costs to all benefiting activities of the organization. Additionally, according to 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 (or other equitable relationship).

obtaining NSF’s approval for the event, as required for the costs to be allowable per federal regulations¹⁰ and NSF PAPPGs.¹¹

Conclusion

ARCUS did not have sufficient policies and procedures in place to ensure that personnel appropriately determined the allowable portion charged to NSF funding when publishing NSF-sponsored research, or that it only reimbursed travelers for allowable expenses.

We are therefore questioning \$6,391 of unallowable expenses charged to two NSF awards. ARCUS concurred with \$740 of the questioned costs but disagreed with the remaining \$5,651, as illustrated in Table 6.

Table 6: Finding 2 Summary: Unallowable Expenses

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			
			Direct	Indirect	Total	ARCUS Agreed to Reimburse
██████	July 2021 Publication	2021	\$3,900	\$1,751	\$5,651	\$0
██████	February 2018 Social Event	2018	511	229	740	740
Total			<u>\$4,411</u>	<u>\$1,980</u>	<u>\$6,391</u>	<u>\$740</u>

Source: Auditor summary of identified exceptions.

Recommendations

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

- 2.1. Resolve the \$5,651 in questioned publication costs for which ARCUS has not agreed to reimburse NSF and direct ARCUS to repay or otherwise remove the sustained questioned costs from its NSF award.
- 2.2. Direct ARCUS to provide documentation supporting that it has repaid or otherwise credited the \$740 in questioned social event expenses for which it has agreed to reimburse NSF.
- 2.3. Direct ARCUS to strengthen its policies and procedures surrounding the publication of NSF-funded research. Updated procedures should ensure ARCUS verifies that the authors appropriately recognize the applicable NSF awards in their publications and

¹⁰ According to 2 CFR § 200.438, *Entertainment costs*, costs of **entertainment**, including amusement, diversion, and social activities, and any associated costs are unallowable, except where specific costs that might otherwise be considered entertainment have a programmatic purpose and are authorized by the federal awarding agency.

¹¹ NSF PAPPG 17-1, Part I, Chapter II, Section C.2.g.(xiii)(a), *Entertainment*, states that costs of entertainment, amusement, diversion, and social activities, and any costs directly associated with such activities (such as tickets to shows or sporting events, meals, lodging, rentals, transportation, and gratuities), are unallowable.

document the allowable portion of costs before charging publication expenses to the NSF awards.

- 2.4. Direct ARCUS to strengthen its travel expense approval procedures to require that reviewers verify the business purpose of reimbursed meal receipts before ARCUS charges the expenses to NSF awards.

Arctic Research Consortium of the United States Response: ARCUS agreed to reimburse NSF for the \$740 in unallowable social event expenses but disagreed with the remaining \$5,651 in questioned costs. Specifically, ARCUS stated that it received approval from an NSF Program Officer to broadly acknowledge “NSF funding” rather than cite the specific NSF award number when publishing this article.

Auditors’ Additional Comments: ARCUS believes that \$5,651 of the questioned costs should be allowable because an NSF Program Officer approved the funding acknowledgment for the publication. Although ARCUS obtained NSF Program Officer approval to cite a blanket NSF acknowledgment, because the request for approval indicated multiple awards supported the publication, and ARCUS did not provide a documented methodology to support the allocation, but rather charged the full amount of the publication to NSF Award No. [REDACTED], we are unable to determine what portion of the cost was allocable and benefited NSF Award No. [REDACTED]. As such, our position has not changed.

FINDING 3: NON-COMPLIANCE WITH ARCUS POLICIES

ARCUS did not always comply with its timesheet and **subaward** policies and procedures when incurring costs charged to NSF awards.

Non-Compliance with ARCUS Timesheet Policy

We identified five instances in which ARCUS did not comply with its internal timesheet approval policies and procedures, which require members of ARCUS’ management team to approve staff timesheets by 10 a.m. Alaska time on Monday of each payroll week.¹²

Table 7: Non-Compliance with ARCUS Timesheet Policy

Expense Date	NSF Award No.	Timesheet Approval Due	Timesheet Approval Occurred	Notes
April 2018	[REDACTED]	4/9/2018 at 10:00 a.m.	4/9/2018 at 3:45 p.m.	a
December 2018	[REDACTED]	12/17/2018 at 10:00 a.m.	12/17/2018 at 11:37 a.m.	b
April 2019	[REDACTED]	4/8/2019 at 10:00 a.m.	4/8/2019 at 2:24 p.m.	c
September 2019	[REDACTED]	9/9/2019 at 10:00 a.m.	9/10/2019 at 2:04 p.m.	d
April 2020	[REDACTED]	4/20/2020 at 10:00 a.m.	4/20/2020 at 12:00 p.m.	e

Source: Auditor summary of identified exceptions.

¹² According to ARCUS Policy 6-1, *Timesheet Submittal and Review*, members of the management team will approve the timesheets of their staff by 10 a.m. Alaska time on the Monday of payroll week using the Attendance on Demand Operator system.

- a) In April 2018, ARCUS charged NSF Award No. [REDACTED] for \$5,026 in **salary** earned by a Project Manager. However, the Project Manager’s supervisor did not approve the Project Manager’s timesheet before 10 a.m. Alaska time.
- b) In December 2018, ARCUS charged NSF Award No. [REDACTED] for \$2,552 in salary earned by a Project Manager. However, the Project Manager’s supervisor did not approve the Project Manager’s timesheet before 10 a.m. Alaska time.
- c) In April 2019, ARCUS charged NSF Award No. [REDACTED] for \$3,598 in salary earned by a Project Coordinator. However, the Project Coordinator’s supervisor did not approve the Project Coordinator’s timesheet before 10 a.m. Alaska time.
- d) In September 2019, ARCUS charged NSF Award No. [REDACTED] for \$4,596 in salary earned by the Principal Investigator (PI). However, the PI’s supervisor did not approve the PI’s timesheet before 10 a.m. Alaska time.
- e) In April 2020, ARCUS charged NSF Award No. [REDACTED] for \$3,154 in salary earned by the co-PI. However, the co-PI’s supervisor did not approve the co-PI’s timesheet before 10 a.m. Alaska time.

Non-Compliance with ARCUS Subaward Policy

We identified one instance in which ARCUS did not appropriately calculate a risk score when completing the risk assessment it performed before issuing a new subaward.¹³

Table 8: Non-Compliance with ARCUS Subaward Policy

Award Date	NSF Award No.	Subawardee	Notes
September 2020	[REDACTED]	UAF	a

Source: Auditor summary of identified exception.

- a) In September 2020, ARCUS issued a subaward to the University of Alaska Fairbanks (UAF) to perform work under NSF Award No. [REDACTED]. However, ARCUS did not appropriately calculate the risk score it assigned UAF before issuing the subaward. Specifically, ARCUS assigned UAF a risk score of 1 but should have assigned UAF a risk score of 4 based on the results of the completed risk assessment matrix.
 - *Because ARCUS assigns a risk level of “Low” to subawardees with a risk score of 1 and to subawardees with a risk score of 4, we did not note an exception with*

¹³ According to ARCUS Policy 19-1, *Subawards*, ARCUS must conduct a risk assessment each time it issues a new subaward and may conduct a risk assessment if it makes a modification to an existing award. ARCUS conducts the risk assessment after an award is issued by a federal agency and before a subrecipient’s work on a project commences.

regard to the subawardee monitoring procedures that ARCUS put in place based on the results of the risk assessment.¹⁴

Conclusion

ARCUS' current procedures do not ensure that employees consistently comply with its timekeeping and subaward policies. Specifically, ARCUS' timesheet procedures are not designed to ensure compliance with its timesheet policies, and its manual risk assessment procedures do not ensure that personnel appropriately consider the "Weight" column in the risk assessment matrix when assigning risk scores to subawardees.

Because these instances of non-compliance did not directly result in ARCUS charging unallowable costs to NSF awards, we are not questioning any costs related to these exceptions. However, we are noting compliance findings for the six instances in which ARCUS did not comply with its internal policies when charging costs to five NSF awards, as illustrated in Table 9.

Table 9: Finding 3 Summary: Non-Compliance with ARCUS Policies

NSF Award No.	Compliance Exception Identified	Fiscal Year(s)
██████	April 2018 Timesheet Not Approved Within Required Time	2018
██████	December 2018 Timesheet Not Approved Within Required Time	2019
██████	April 2019 Timesheet Not Approved Within Required Time	2019
██████	September 2019 Timesheet Not Approved Within Required Time	2019
██████	April 2020 Timesheet Not Approved Within Required Time	2020
██████	September 2020 Subaward Risk Assessment Not Appropriately Completed	2021

Source: Auditor summary of identified exceptions.

Recommendations

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

- 3.1. Direct ARCUS to strengthen its administrative and management procedures to ensure that supervisors perform timesheet approvals by the date and time required per ARCUS' salary policies and/or update its policies to reflect the current timesheet approval procedures.
- 3.2. Direct ARCUS to strengthen its quality control procedures for assigning risk scores to subrecipients. Updated procedures should ensure ARCUS appropriately weights all risk assessment matrix criteria before assigning a risk score to each subrecipient.

¹⁴ According to 2 CFR § 200.331(b), *Requirements for pass-through entities*, pass-through entities are required to evaluate each subrecipient's risk of noncompliance with federal statutes, regulations, and the terms and conditions of the subaward for purposes of determining the appropriate subrecipient monitoring.

Arctic Research Consortium of the United States Response: ARCUS agreed with the exceptions related to non-compliance with its internal salary and subaward policies. ARCUS stated that it will update its timesheet policy to better match its current procedures and that it will change the format of its subawardee risk assessment matrix to ensure it appropriately assigns risk values.

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

FINDING 4: NON-COMPLIANT FINANCIAL MANAGEMENT SYSTEM

ARCUS' financial management system (FMS) does not produce accurate, current, and complete records that adequately identify the source and application of funds for federally funded activities, as required by federal regulations.¹⁵

ARCUS was unable to identify which of the costs in its FMS it had billed to each NSF award in its Award Cash Management Service (ACM\$) draws during the audit period because ARCUS' current ACM\$ drawdown process is not based solely on when ARCUS posts expenses to its GL. Specifically, because ARCUS manually enters transaction dates for each expense based on the invoice date, rather than on the date ARCUS posted the expense to its GL, and because ARCUS is able to draw down cash to cover expenses that have been invoiced but have not yet posted to its GL, ARCUS is unable to identify which expenses in its FMS were covered by each ACM\$ draw.

Conclusion

Because ARCUS' current ACM\$ draw methodology does not appear to result in ARCUS drawing down costs prior to its actual, immediate cash needs, we are not questioning any costs associated with this exception. However, we are noting a compliance exception, as ARCUS' FMS does not comply with federal requirements, as illustrated in Table 10.

Table 10: Finding 4 Summary: Non-Compliant Financial System

NSF Award No.	Compliance Exception Identified	Fiscal Year(s)
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2014-2021
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2014-2021
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2017-2020
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2018-2021
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2018-2020
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2019-2021
██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2019-2021

Source: Auditor summary of identified exceptions.

¹⁵ According to 2 CFR §215.21(b), *Standards for financial management systems*, and 2 CFR § 200.302(b), *Financial management*, a recipient's FMS must provide accurate, current, and complete disclosure of the financial results of each federal award or program, as well as records that identify adequately the source and application of funds for federally funded activities.

Recommendations

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

- 4.1. Direct ARCUS to update its ACM\$ drawdown process to ensure that it can produce accurate, current, and complete records that adequately identify the source and application of NSF funds.

Arctic Research Consortium of the United States Response: ARCUS noted that it performs monthly reconciliations between the ARCUS FMS and the amounts reported in ACM\$, and that these procedures ensured ARCUS only drew down funds for actual expenses. However, ARCUS agreed to work with NSF to add procedures to cross-check specific ACM\$ drawdown entries against the amounts recorded in ARCUS' general ledger.

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

COTTON & COMPANY ASSURANCE AND ADVISORY, LLC



Megan Mesko, CPA, CFE
Partner
July 14, 2022

APPENDIX A: ARCUS' RESPONSE



CONNECTING ARCTIC RESEARCH SINCE 1988

10 June 2022

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

Dear Ms. Mesko,

The Arctic Research Consortium of the U.S. (ARCUS) appreciates the opportunity to work with the NSF Office of Inspector General and Cotton & Company to review and improve, as needed, our NSF award accounting policies and procedures. We take seriously the responsibility to comply with all federal and NSF regulations and to ensure all costs are reasonable, allocable, and allowable. We also thank you and your colleagues for your time in working with us throughout this process.

We have reviewed the formal draft audit report findings, including a total of \$14,847 questioned costs, and our responses follow under each of the findings:

Finding 1: Inadequately Supported Expenses

ARCUS did not provide adequate documentation to support the allocability, allowability, and reasonableness of \$8,456 in expenses charged to two NSF awards during the audit period, as required for the costs to be allowable, per federal regulations^[1] and NSF Proposal and Award Policies and Procedures Guides (PAPPGs).^[2]

- a) In August 2015, ARCUS charged NSF Award No. [REDACTED] for \$4,385 in software expenses, which represented 75 percent of the total cost of the software. However, ARCUS did not support how it determined that 75 percent of this expense was allocable to this award.
- a) In September 2016, ARCUS charged NSF Award No. [REDACTED] for \$2,203 in costs incurred for monthly internet services, which represented 55 percent of the total cost for the services. However, ARCUS did not support how it determined that 55 percent of this expense was allocable to this award.
- b) In September 2020, ARCUS charged NSF Award No. [REDACTED] for \$1,868 in costs incurred for monthly internet services, which represented 49.3 percent of the total cost for the services. However, ARCUS did not support how it determined that 49.3 percent of this expense was allocable to this award.

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ARCUS Response: ARCUS did use a reasonable method to assign charges to multiple awards (i.e., based on relative size of grant and use of the service based on project needs), but agrees that it had not been sufficiently documented and included in ARCUS' permanent business records.

Finding 2: Unallowable Expenses

ARCUS charged two NSF awards for \$6,391 in **publication** and meal expenses that are not allowable per federal regulations^[1] or NSF PAPPGs.^[2]

- a) In July 2021, ARCUS charged NSF Award No. [REDACTED] for \$5,651 in publication costs incurred to publish a research article that acknowledged NSF funding but did not identify the specific NSF award charged as required for the costs to be allowable per federal regulations^[1] and NSF PAPPGs.^[2]
- b) In February 2018, ARCUS charged NSF Award No. [REDACTED] for \$740 in expenses that conference attendees claimed for hosting a "Social Event" that was not authorized by NSF, as required for the costs to be allowable per federal regulations^[3] and NSF PAPPGs

ARCUS Response:

- a) ARCUS disagrees with this finding; the NSF program officer for the grant approved, via email/in writing, the specific NSF acknowledgement in the publications, which were not developed by ARCUS staff, but via a subaward to another organization.
- b) This event was a networking event associated with a scientific workshop (with no alcohol paid), but the business case had not been adequately documented in the records; ARCUS agrees to reimburse NSF.

Finding 3: Non-Compliance with ARCUS Policies

ARCUS did not always comply with its **salary** and **subaward** policies and procedures when incurring costs charged to NSF awards.

Non-Compliance with ARCUS Salary Policy

We identified five instances in which ARCUS did not comply with its internal salary approval policies and procedures, which require members of ARCUS's management team to approve staff timesheets by 10 a.m. Alaska time on Monday of each payroll week.

- a) In April 2018, ARCUS charged NSF Award No. [REDACTED] for \$5,026 in salary earned by a Project Manager. However, the Project Manager's supervisor did not approve the Project Manager's timesheet before 10 a.m. Alaska time.
- b) In December 2018, ARCUS charged NSF Award No. [REDACTED] for \$2,552 in salary earned by a Project Manager. However, the Project Manager's supervisor did not approve the Project Manager's timesheet before 10 a.m. Alaska time.

c) In April 2019, ARCUS charged NSF Award No. [REDACTED] for \$3,598 in salary earned by a Project Coordinator. However, the Project Coordinator's supervisor did not approve the Project Coordinator's timesheet before 10 a.m. Alaska time.

d) In September 2019, ARCUS charged NSF Award No. [REDACTED] for \$4,596 in salary earned by the Principal Investigator (PI). However, the PI's supervisor did not approve the PI's timesheet before 10 a.m. Alaska time.

e) In April 2020, ARCUS charged NSF Award No. [REDACTED] for \$3,154 in salary earned by the co-PI. However, the co-PI's supervisor did not approve the co-PI's timesheet before 10 a.m. Alaska time.

ARCUS Response: ARCUS agrees to clarify the wording of the internal ARCUS policy to better match the procedures that are feasible and followed in practice (which is 10:00 am AK or as soon as reasonably possible, or in consultation with the Director of Finance/HR).

Non-Compliance with ARCUS Subaward Policy

We identified one instance in which ARCUS did not appropriately calculate a risk score when completing the risk assessment it performed before issuing a new subaward

a) In September 2020, ARCUS issued a subaward to the University of Alaska Fairbanks (UAF) to perform work under NSF Award No. [REDACTED]. However, ARCUS did not appropriately calculate the risk score it assigned UAF before issuing the subaward. Specifically, ARCUS assigned UAF a risk score of 1 but should have assigned UAF a risk score of 4 based on the results of the completed risk assessment matrix.

- *Because ARCUS assigns a risk level of "Low" to subawardees with a risk score of 1 and to subawardees with a risk score of 4, we did not note an exception with regard to the subawardee monitoring procedures that ARCUS put in place based on the results of the risk assessment.*

ARCUS Response:

ARCUS agrees there was a data entry error where the raw score versus weighted score was recorded, but that it did not change the result of the risk analysis. ARCUS will be changing the format of the matrix to an excel sheet that calculates the risk numbers automatically via a formula, to reduce the potential of data entry error.

Finding 4: Non-Compliant Financial Management System

ARCUS' financial management system (FMS) does not produce accurate, current, and complete records that adequately identify the source and application of funds for federally funded activities, as required by federal regulations.^[1]

ARCUS was unable to identify which of the costs in its FMS it had billed to each NSF award in its Award Cash Management Service (ACMS) draws during the audit period because ARCUS'

current ACMS drawdown process is not based solely on when ARCUS posts expenses to its GL. Specifically, because ARCUS manually enters transaction dates for each expense based on the invoice date, rather than on the date ARCUS posted the expense to its GL, and because ARCUS is able to draw down cash to cover expenses that have been invoiced but have not yet posted to its GL, ARCUS is unable to identify which expenses in its FMS were covered by each ACMS draw.

ARCUS Response:

ARCUS procedures result in only drawing down NSF funds for actual expenses approved to each grant, and follows GAAP and federal audit requirements; monthly reconciliations are performed at the end of each month to ensure accuracy between the ARCUS financial management system/general ledger and research.gov. ARCUS agrees to work with NSF on an added procedure to cross-check specific ACMS drawdown entries with the General Ledger.

Signed 6/10/22:



Helen Wiggins
Executive Director



Brandi Austin
Director of Finance and Human Resources

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 of all the costs ARCUS claimed on seven NSF awards. The objectives of the audit were to evaluate ARCUS’ award management environment, to determine if costs claimed on seven awards are allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and applicable federal financial assistance requirements, and to determine whether any extraordinary circumstances existed that would justify further audit work beyond the original sample of 40 to 50 transactions.

SCOPE

The audit population included approximately \$15.5 million in expenses that were posted to ARCUS’ GL for the following seven NSF awards from each award’s inception date through August 5, 2021.¹⁶

NSF Award Numbers	

METHODOLOGY

After obtaining NSF OIG’s approval for our audit plan, we performed each of the approved audit steps. Generally, these steps included:

- Assessing the reliability of the GL data that ARCUS provided by comparing the costs charged to NSF awards per ARCUS’ accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests.
 - Our work required us to rely on computer-processed data obtained from ARCUS and NSF OIG. NSF OIG provided award data that ARCUS reported through ACM\$ during our audit period.

¹⁶ The total award-related expenses that ARCUS reported in its GL exceeded the \$15,334,988 reported in NSF’s Award Cash Management Service (ACM\$). Although ARCUS’ GL data supported \$15,494,325 within our audit period, or \$159,337 more than the total it had claimed in ACM\$, ARCUS was unable to identify which of the expenses reported in its GL were covered by each ACM\$ draw. As a result, we requested, and received approval from the NSF OIG to update the scope of our audit to include all costs ARCUS posted to its GL from each award’s inception through August 5, 2021 which was the final date that expenditures would have been considered for the final draw ARCUS made during the audit period on August 9, 2021. Further, we noted a compliance exception with ARCUS’ financial management system as described in [Finding 4 Non-Compliant Financial System](#).

- We assessed the reliability of the GL data that ARCUS provided by (1) comparing the costs charged to NSF awards per ARCUS’ accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that ARCUS submitted to NSF during the audit **POP**; and (2) reviewing the parameters that ARCUS used to extract transaction data from its accounting systems. We identified several discrepancies between the amounts supported by ARCUS’ GL and the amounts that ARCUS claimed per NSF’s ACM\$ system, which resulted in **Finding 4: Non-Compliant Financial System**. However, we found ARCUS’ computer-processed data to be sufficiently reliable for the purposes of the audit. We did not identify any exceptions with the parameters that ARCUS 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 FY 2021 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.
 - ARCUS provided detailed transaction-level data to support \$15,494,325 in costs charged to NSF awards during the period, which was greater than the \$15,334,988 ARCUS claimed in ACM\$ for the seven awards. This data resulted in a total audit universe of \$15,494,325 in expenses claimed on seven NSF awards.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information that ARCUS and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, and ARCUS-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 ARCUS’ internal controls, within the audit’s scope, solely to understand the directives or policies and procedures ARCUS has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, and ARCUS policies.
- Providing ARCUS with a list of 45 transactions that we selected based on the results of our data analytics and requesting that ARCUS provide documentation to support each transaction.

- Reviewing the supporting documentation ARCUS 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,¹⁷ NSF,¹⁸ and ARCUS policies.¹⁹
- Holding virtual interviews and walkthroughs with ARCUS in January and February 2022 to discuss payroll (including effort reporting), fringe benefits, **travel**, **participant support costs**, procurement, **equipment** (including an inventory check), Graduate Research Fellowship Program, 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).
- Summarizing the results of our fieldwork and confirming that we did not identify any extraordinary circumstances that justified the need for a second audit phase.²⁰

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 ARCUS personnel to ensure that ARCUS 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*, 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.

¹⁷ We assessed ARCUS' compliance with 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; 2 CFR Part 215, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations; and 2 CFR Part 230, Cost Principles for Non-Profit Organizations (Office of Management and Budget Circular A-122), as appropriate.

¹⁸ We assessed ARCUS' compliance with NSF PAPPGs 14-1, 15-1, 16-1, 17-1, 18-1, and 19-1 and with NSF award-specific terms and conditions, as appropriate.

¹⁹ We assessed ARCUS' compliance with internal ARCUS policies and procedures surrounding costs budgeted for or charged to NSF awards.

²⁰ Based on the areas of elevated risk of noncompliance identified during the initial phase, we determined that there was no need for any expanded audit phase.

APPENDIX C: SUMMARY OF QUESTIONED COSTS

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

Finding	Description	Questioned Costs		Total
		<i>Unsupported</i>	<i>Unallowable</i>	
1	Inadequately Supported Expenses	\$0	\$8,456	\$8,456
2	Unallowable Expenses	-	6,391	6,391
3	Non-Compliance with ARCUS Policies	-	-	-
4	Non-Compliant Financial Management System	-	-	-
Total		<u>\$0</u>	<u>\$14,847</u>	<u>\$14,847</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	ARCUS Agreed to Reimburse
	5	\$5,180	\$2,148	\$7,328	\$7,328
	3	3,900	1,751	5,651	0
	2	-	-	-	-
	1	-	-	-	-
	1	-	-	-	-
	2	-	-	-	-
	4	1,289	579	1,868	1,868
Total	<u>18</u>	<u>\$10,369</u>	<u>\$4,478</u>	<u>\$14,847</u>	<u>\$9,196</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 No.	NSF Award No.	Expense Description	Fiscal Year(s)	Direct	Indirect	Total	ARCUS Agreed to Reimburse
1) Inadequately Supported Expenses	██████████	August 2015 Unsupported Software Allocation	2015	\$3,149	\$1,236	\$4,385	\$4,385
	██████████	September 2016 Unsupported Internet Service Allocation	2016	1,520	683	2,203	2,203
	██████████	September 2020 Unsupported Internet Service Allocation	2020	1,289	579	1,868	1,868
2) Unallowable Expenses	██████████	July 2021 Publication	2021	3,900	1,751	5,651	0
	██████████	February 2018 Social Event	2018	511	229	740	740
3) Non-Compliance with ARCUS Policies	██████████	April 2018 Timesheet Not Approved Within Required Time	2018	-	-	-	-
	██████████	December 2018 Timesheet Not Approved Within Required Time	2019	-	-	-	-
	██████████	April 2019 Timesheet Not Approved Within Required Time	2019	-	-	-	-
	██████████	September 2019 Timesheet Not Approved Within Required Time	2019	-	-	-	-
	██████████	April 2020 Timesheet Not Approved Within Required Time	2020	-	-	-	-
	██████████	September 2020 Subaward Risk Assessment Not Appropriately Completed	2021	-	-	-	-
4) Non-Compliant Financial System	██████████	ARCUS' ACM\$ Draw Process Does Not Comply with Federal Requirements	2014-2021	-	-	-	-
	██████████		2014-2021	-	-	-	-
	██████████		2017-2020	-	-	-	-
	██████████		2018-2021	-	-	-	-
	██████████		2018-2020	-	-	-	-
	██████████		2019-2021	-	-	-	-
	██████████		2019-2021	-	-	-	-
Total				\$10,369	\$4,478	\$14,847	\$9,196

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. Direct ARCUS to provide documentation supporting that it has repaid or otherwise credited the \$8,456 in questioned software and internet service expenses for which it has agreed to reimburse NSF.
- 1.2. Direct ARCUS to strengthen its policies and procedures for documenting the methodology it uses to allocate expenses to NSF awards, including introducing additional controls to help ensure that it appropriately creates and maintains sufficient documentation to support that ARCUS is charging expenses to NSF awards consistent with the benefits the NSF awards receive.
- 1.3. Direct ARCUS to review all general software and internet service expenses charged directly to NSF awards and identify any other software and internet service expenses that it did not appropriately allocate to NSF awards.
- 2.1. Resolve the \$5,651 in questioned publication costs for which ARCUS has not agreed to reimburse NSF and direct ARCUS to repay or otherwise remove the sustained questioned costs from its NSF award.
- 2.2. Direct ARCUS to provide documentation supporting that it has repaid or otherwise credited the \$740 in questioned social event expenses for which it has agreed to reimburse NSF.
- 2.3. Direct ARCUS to strengthen its policies and procedures surrounding the publication of NSF-funded research. Updated procedures should ensure ARCUS verifies that the authors appropriately recognize the applicable NSF awards in their publications and document the allowable portion of costs before charging publication expenses to the NSF awards.
- 2.4. Direct ARCUS to strengthen its travel expense approval procedures to require that reviewers verify the business purpose of reimbursed meal receipts before ARCUS charges the expenses to NSF awards.
- 3.1. Direct ARCUS to strengthen its administrative and management procedures to ensure that supervisors perform timesheet approvals by the date and time required per ARCUS' salary policies and/or update its policies to reflect the current timesheet approval procedures.
- 3.2. Direct ARCUS to strengthen its quality control procedures for assigning risk scores to subrecipients. Updated procedures should ensure ARCUS appropriately weights all risk assessment matrix criteria before assigning a risk score to each subrecipient.
- 4.1. Direct ARCUS to update its ACM\$ drawdown process to ensure that it can produce accurate, current, and complete records that adequately identify the source and application of NSF funds.

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.

Factors affecting allowability of costs. The tests of allowability of costs under these principles are: they must be reasonable; they must be allocable to sponsored agreements under the principles and methods provided herein; they must be given consistent treatment through application of those generally accepted accounting principles (GAAP) appropriate to the circumstances; and they must conform to any limitations or exclusions set forth in these principles or in the sponsored agreement as to types or amounts of cost items. (2 CFR 220, Appendix A, Section C.2.) and (2 CFR § 200.403).

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.

Entertainment. Costs of entertainment, including amusement, diversion, and social activities and any associated costs are unallowable, except where specific costs that might otherwise be considered entertainment have a programmatic purpose and are authorized

either in the approved budget for the federal award or with prior written approval of the federal awarding agency. (2 CFR § 200.438).

[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.

Leave is the cost of fringe benefits in the form of regular compensation paid to employees during periods of authorized absences from the job, such as for annual leave, family-related leave, sick leave, holidays, court leave, military leave, administrative leave, and other similar benefits, are allowable if all of the following criteria are met:

- 1) They are provided under established written leave policies.
- 2) The costs are equitably allocated to all related activities, including federal awards.
- 3) The accounting basis (cash or accrual) selected for costing each type of leave is consistently followed by the non-federal entity or specified grouping of employees. (2 CFR § 200.431).

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

Indirect (F&A) Costs. This refers to those 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.](#)

Participant Support Costs. This refers to 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 19-1).

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

Publication Costs. Costs for electronic and print media, including distribution, promotion, and general handling, are allowable. If these costs are not identifiable with a particular cost objective, they should be allocated as indirect costs to all benefiting activities of the non-federal entity.

Page charges for professional journal publications are allowable where:

- (1) The publications report work supported by the federal government.
- (2) The charges are levied impartially on all items published by the journal, whether or not under a federal award. (2 CFR § 230, Appendix B.38) and (2 CFR § 200.461).
- (3) The non-federal entity may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the POP of the federal award. (2 CFR § 200.461).

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

Reasonable Cost. A reasonable cost is 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. 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 or rules or written policies and meets the requirements of federal statute, where applicable.
- (3) Is determined and supported as provided in Standards for Documentation of Personnel Expenses, when applicable. (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. It does not include payments to a contractor or payments to an individual that is a beneficiary of a federal program. A subaward may be provided through any form of legal agreement, including an agreement that the pass-through entity considers a contract. (2 CFR § 200.92).

[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. Such costs may be charged on an actual cost basis, on a per diem or mileage basis in lieu of actual costs incurred, or on a combination of the two, provided the method used is applied to an entire trip and not to selected days of the trip, and results in charges consistent with those normally allowed in like circumstances in the non-federal entity's non-federally funded activities and in accordance with non-federal entity's written travel reimbursement policies. Notwithstanding the provisions of § 200.444 *General costs of government*, travel costs of officials covered by that section are allowable with the prior written approval of the federal awarding agency or pass-through entity when they are specifically related to the federal award. (2 CFR § 200.474).

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



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