

# Performance Audit of Subaward Costs – Northeastern University

REPORT PREPARED BY SIKICH CPA LLC





# At a Glance

Performance Audit of Subaward Costs – Northeastern University  
OIG 25-01-005 | February 6, 2025

## AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Sikich CPA LLC (Sikich) to conduct a performance audit of subaward costs that Northeastern University (Northeastern) incurred on 20 NSF awards from the inception of each award through August 31, 2023. The auditors tested more than \$1.7 million of the approximately \$12.1 million of costs claimed during the period. The objectives of the audit were to determine if subrecipient costs claimed by Northeastern were supported, allowable, allocable, reasonable, and in compliance with NSF terms and conditions and other NSF and federal requirements specific to subawards. A description of the audit's objective, scope, and methodology is attached to the report as Appendix B.

## AUDIT RESULTS

The report highlights concerns about Northeastern's compliance with certain federal and NSF award requirements, NSF award terms and conditions, and Northeastern policies. The auditors questioned \$1,049,082 of costs claimed by Northeastern during the audit period. Specifically, the auditors found \$936,125 in unallowable expenses, \$104,092 of inadequately supported expenses, and \$8,865 of indirect cost rates not appropriately applied. The auditors also identified five compliance related findings for which there were no questioned costs: inappropriately allocated salary expenses, fringe benefit rates not appropriately applied, non-compliance with federal financial management requirements, non-compliance with institutional policies, and non-compliance with subaward terms and conditions. In addition to the eight findings, the audit report includes one area for improvement for Northeastern to consider related to indirect costs and adjustments not recorded in subawardees' financial information systems. Sikich is responsible for the attached report and the conclusions expressed in it. NSF OIG does not express any opinion on the conclusions presented in Sikich's report.

## RECOMMENDATIONS

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

## AUDITEE RESPONSE

Although Northeastern generally agreed with the findings in the audit report, it only agreed to reimburse \$616,695 of the questioned costs. Northeastern's response is attached, in its entirety, to the report as Appendix A.

## CONTACT US

For congressional, media, and general inquiries, email [OIGPublicAffairs@nsf.gov](mailto:OIGPublicAffairs@nsf.gov).




**U.S. NATIONAL SCIENCE FOUNDATION**  
**Office of Inspector General**

**MEMORANDUM**

**DATE:** February 6, 2025

**TO:** Quadira Dantro  
Division Director  
Division of Institution and Award Support  
U.S. National Science Foundation

Jamie French  
Division Director  
Division of Grants and Agreements  
U.S. National Science Foundation



**FROM:** Theresa S. Hull  
Assistant Inspector General  
Office of Audits, Inspections, and Evaluations

**SUBJECT:** Final Report No. 25-01-005, *Northeastern University*

This memorandum transmits the Sikich CPA LLC (Sikich) report for the audit of subaward costs charged by Northeastern University (Northeastern) to 20 NSF awards from the inception of each award through August 31, 2023. The audit encompassed more than \$1.7 million of the approximately \$12.1 million of costs claimed during the period. The objectives of the audit were to determine if subrecipient costs claimed by Northeastern were supported, allowable, allocable, reasonable, and in compliance with NSF terms and conditions and other NSF and federal requirements specific to subawards. 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**

Sikich 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 Sikich's report. To fulfill our responsibilities, we:

- reviewed Sikich'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 Sikich, as necessary, to discuss audit progress, findings, and recommendations;
- reviewed the report prepared by Sikich; and
- coordinated issuance of the 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](mailto:OIGPublicAffairs@nsf.gov).

Attachment

CC: Darío Gil, Victor McCrary, Wanda Ward, Scott Stanley, John Veysey, Ann Bushmiller, Micah Cheatham, Judy Hayden, Christina Sarris, Janis Coughlin-Piester, Alex Wynnyk, Rochelle Ray, Charlotte Grant-Cobb

## EXECUTIVE SUMMARY

The Sikich CPA LLC (formerly known as Cotton & Company Assurance and Advisory, LLC) audit team determined that Northeastern University (Northeastern) needs improved oversight 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 Northeastern's policies and procedures. Specifically, the audit report includes eight findings, one area of improvement, and a total of \$1,049,082 in questioned costs.

## AUDIT OBJECTIVES

The National Science Foundation Office of Inspector General engaged Sikich CPA LLC (herein referred to as "we") to conduct a performance audit of subaward expenses Northeastern claimed on NSF awards from the inception of each award through August 31, 2023. The audit objectives included determining whether subawardee expenses Northeastern claimed were supported, allowable, allocable, reasonable, and in compliance with NSF terms and conditions and applicable NSF and federal requirements. We have attached a full description of the audit's objectives, scope, and methodology as [Appendix B](#).

## AUDIT CRITERIA

The audit team assessed Northeastern's compliance with 2 Code of Federal Regulations (CFR) 200 (versions effective December 26, 2014, and November 12, 2020); NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 19-1, 20-1, 22-1, and 23-1; NSF award terms and conditions; and Northeastern and its subawardees' 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 \$1,049,082 that Northeastern inappropriately claimed during the audit period, including:

- \$936,125 of unallowable expenses
- \$104,092 of inadequately supported expenses
- \$8,865 of indirect cost rates not appropriately applied

The audit report also includes five findings for which the auditors did not question any costs:

- Inappropriately allocated salary expenses
- Fringe benefit rates not appropriately applied
- Non-compliance with federal financial management requirements
- Non-compliance with institutional policies
- Non-compliance with subaward terms and conditions

In addition to the eight findings, the audit report includes one area for improvement for Northeastern to consider related to indirect costs and adjustments not recorded in subawardees' financial information systems.

## RECOMMENDATIONS

The audit report includes 20 recommendations and 1 consideration for NSF's Director of the Division of Institution and Award Support related to resolving the \$1,049,082 in questioned costs and ensuring Northeastern strengthens its award management environment, as summarized in [Appendix D](#).

## AUDITEE RESPONSE

Northeastern generally agreed with the findings included in the audit report and agreed to reimburse NSF for \$616,695 of the \$1,049,082 in questioned costs. Northeastern's response is attached, in its entirety, to the report as [Appendix A](#).

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## Abbreviations

ACM\$

[REDACTED]

Award Cash Management Service

[REDACTED]

CFR

[REDACTED]

Code of Federal Regulations

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

FY

Fiscal Year

GAGAS

[REDACTED]

Generally Accepted Government Auditing Standards

[REDACTED]

GL

General Ledger

IBS

[REDACTED]

Institutional Base Salary

[REDACTED]

[REDACTED]

MTDC

Modified Total Direct Cost

NICRA

Negotiated Indirect Cost Rate Agreement

Northeastern

Northeastern University

NSF

National Science Foundation

OIG

Office of Inspector General

[REDACTED]

[REDACTED]

PAPPG

Proposal and Award Policies and Procedures Guide

PI

Principal Investigator

POP

Period of Performance

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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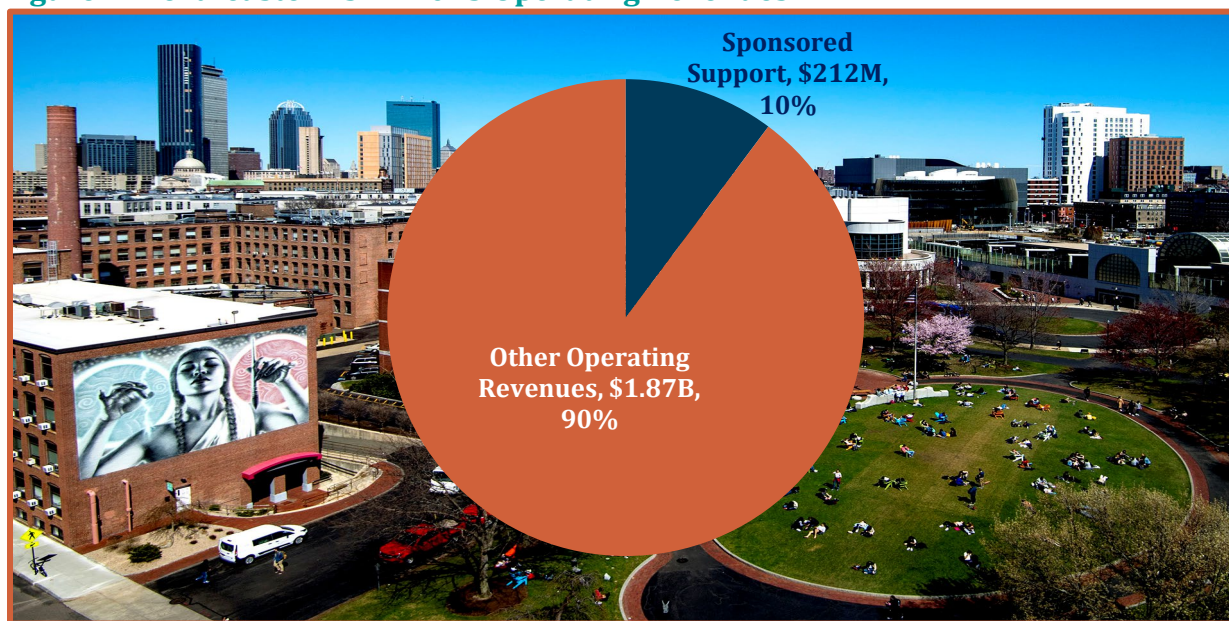
## BACKGROUND

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 contractors to provide these audit services.

NSF OIG engaged Sikich CPA LLC (formerly known as Cotton & Company Assurance and Advisory, LLC, and herein referred to as “we”) to conduct a performance audit of costs claimed by Northeastern University (Northeastern). Northeastern is a private research university with its main campus in Boston, Massachusetts. In fiscal year (FY) 2023, Northeastern reported approximately \$2.08 billion in operating revenues, including approximately \$212 million received from sponsored support, as illustrated in Figure 1.

**Figure 1: Northeastern’s FY 2023 Operating Revenues**



Source: The chart data is supported by Northeastern’s FY 2023 Annual Financial Report. (<https://finance.northeastern.edu/wp-content/uploads/Northeastern-University-FY23-Financial-Statements.pdf>)  
The photo of Northeastern’s campus is publicly available on Northeastern’s website. (<https://admissions.northeastern.edu/application-information/prospective-student-guide/>)



## AUDIT SCOPE

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This performance audit—conducted under Order No. 140D0418A0042—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), as issued by the Comptroller General of the United States.

The objectives of this performance audit were to (1) determine whether the subaward expenses that Northeastern claimed on its NSF awards were supported, [allowable](#), [allocable](#), [reasonable](#), and in compliance with relevant NSF and federal regulations, and (2) evaluate Northeastern’s compliance with relevant NSF and federal requirements for pass-through entities. [Appendix B](#) provides detailed information regarding the audit scope and methodology used for this engagement.

Northeastern provided general ledger (GL) data to support \$12.1 million in subaward expenses claimed on 20 NSF awards<sup>1</sup> from each award’s inception date through August 31, 2023.

We judgmentally selected a sample of 25 subaward transactions recorded in Northeastern’s GL, which represented \$513,863<sup>2</sup> in costs claimed on 25 subawardee invoices related to 21 subawardees. Based on our review of the sampled invoices and Northeastern’s GL data, we were able to calculate the total cumulative costs that each subawardee invoiced to Northeastern. We requested that each of the 21 sampled subawardees provide transaction-level data to support the cumulative costs that Northeastern paid to the subawardee and claimed on the sampled NSF awards as of the end of our audit period. We then judgmentally selected 68 transactions from the GL data provided by the sampled subawardees, which represented \$1,766,547 of the total expenses claimed during the audit period (see Table 1).<sup>3</sup> We requested and evaluated supporting documentation from Northeastern and its subawardees to determine whether the costs claimed on the NSF awards were allocable, allowable, and reasonable, as well as whether they complied with relevant NSF award terms and conditions, organizational policies, and applicable federal financial assistance requirements for pass-through entities.

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<sup>1</sup> Although the audit scope originally included 28 NSF awards with budgeted subawards, because Northeastern’s GL supported that Northeastern had only charged subaward expenses to 20 of those awards as of August 31, 2023, our audit scope only included subaward expenses charged to 20 NSF awards. See Appendix B, [Objectives, Scope, and Methodology](#), for additional details.

<sup>2</sup> The \$513,863 amount represents the total value of the 25 transactions selected for transaction-based testing at the prime level (Northeastern); it does not represent the dollar base of the total costs reviewed during the audit. The expense amount reported does not include the total [indirect costs](#) applied to the sampled transactions. However, we tested the indirect costs for allowability.

<sup>3</sup> The \$1,766,547 amount represents the total value of the 68 transactions selected for transaction-based testing at the subaward level; it does not represent the dollar base of the total expenses reviewed during the audit.

**Table 1: Summary of Selected Subawardee Transactions**

Budget Category	Transaction Count	Expense Amount <sup>4</sup>
Subawards	10	\$1,556,750
Salaries and Wages	38	161,762
Consultants	5	13,941
Other Direct Costs	3	12,057
Materials and Supplies	4	12,041
Travel	7	9,836
Participant Support Costs	1	160
<b>Total</b>	<b><u>68</u></b>	<b><u>\$1,766,547</u></b>

Source: Auditor summary of selected transactions.

## AUDIT RESULTS

We identified and questioned \$1,049,082 in costs that Northeastern charged to 12 NSF awards. 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	\$936,125
Inadequately Supported Expenses	104,092
Indirect Cost Rates Not Appropriately Applied	8,865
Inappropriately Allocated Salary Expenses	-
Fringe Benefit Rates Not Appropriately Applied	-
Non-Compliance with Federal Financial Management Requirements	-
Non-Compliance with Institutional Policies	-
Non-Compliance with Subaward Terms and Conditions	-
<b>Total</b>	<b><u>\$1,049,082</u></b>

Source: Auditor summary of findings identified.

We made 20 recommendations and identified 1 consideration for NSF's Director of the Division of Institution and Award Support related to resolving the \$1,049,082 in questioned costs and ensuring Northeastern strengthens its administrative and management policies, procedures, and controls for monitoring its subawardees and their use of federal funds. We communicated the results of our audit and the related findings and recommendations to Northeastern and NSF OIG. We included Northeastern's response to this report, in its entirety, in **Appendix A**.

<sup>4</sup> The expense amounts reported represent the total dollar value of the transactions selected for our sample and 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.

## FINDING 1: UNALLOWABLE EXPENSES

Northeastern charged six NSF awards a total of \$936,125 in expenses that were unallowable under federal regulations<sup>5</sup> and NSF [Proposal and Award Policies and Procedures Guides](#) (PAPPGs).<sup>6</sup>

### Unallowable Subaward Expense

Northeastern did not always charge [subaward](#) expenses to NSF awards based on the relative benefits the awards received, as required per federal regulations<sup>7</sup> and NSF PAPPGs, as illustrated in Table 3.

**Table 3: Unallowable Subaward Expense**

Expense Date	NSF Award No.	Unallowable Total	Unallowable Expenses Associated With	Notes
June 2020	██████████	\$403,142	Invoice Charged to Incorrect Award	<b>a</b>

Source: Auditor summary of identified exception.

- a) In June 2020, Northeastern charged NSF Award No. ██████████ for \$403,142 invoiced by its subawardee, ██████████. Northeastern confirmed that the invoice related to a different award, therefore it removed the expense from NSF Award No. ██████████ as a result of our audit and provided documentation to support it credited the funds against expenses claimed in its May 14, 2024, ACM\$ drawdown request.

### Unapproved Subaward Expenses

Northeastern charged NSF Award No. ██████████ for expenses associated with one subaward for which Northeastern's subawardee, ██████████, did not obtain appropriate NSF approval, as was required for the subaward expenses to be allowable, per NSF PAPPGs,<sup>8</sup> as illustrated in Table 4.

<sup>5</sup> According to 2 Code of Federal Regulations (CFR) § 200.403 (December 26, 2014; revised November 12, 2020), [Factors affecting allowability of costs](#), (a), for a cost to be allowable, it must be necessary 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. See [Appendix E](#) of this report for additional factors affecting the allowability of costs.

<sup>6</sup> According to NSF PAPPGs 19-1, 20-1, and 22-1, Part II, Chapter X, A. *Basic Considerations*, grantees should ensure all costs charged to NSF awards meet the requirements of 2 CFR § 200, Subpart E, *Cost Principles*; grant terms and conditions; and any other specific requirements of both the award notice and the applicable program solicitation.

<sup>7</sup> According to 2 CFR § 200.405 (revised November 12, 2020), *Allocable costs*, (a), a cost is allocable to a federal award if the cost is assignable to that award in accordance with the relative benefits received.

<sup>8</sup> According to NSF PAPPG 19-1, Part I, Chapter II, C. *Proposal Contents*, Section 2.g.(vi)(e), *Subawards*, organizations must obtain authorization for subawards, either by including the subaward(s) on an NSF award budget or by receiving written prior approval from the cognizant NSF Grants Officer after NSF has issued the award.

**Table 4: Unapproved Subaward Expenses**

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Third-Tier Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
February 2020 – April 2023	██████	██	███	\$396,931	Unapproved Subaward	a

Source: Auditor summary of identified exception.

- a) Between February 2020 and April 2023, █████ charged NSF Award No. █████ for \$396,931 in subaward expenses and related indirect costs associated with its subawardee, the █████.<sup>9</sup> However, █████ did not include the subaward in the approved proposal budget, nor did it obtain approval from the NSF Grants Officer.

### ***Unallowable Salary and Fringe Benefit Expenses***

Northeastern charged four NSF awards for \$131,619 in subawardee **salary** and fringe benefit expenses that were not allowable, per federal regulations<sup>10</sup> and the NSF PAPPGs,<sup>11</sup> as illustrated in Table 5.

**Table 5: Unallowable Salary and Fringe Benefit Expenses**

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
November 2019 – December 2021	██████	██████	\$63,113	Project Personnel Salaries	a
November 2019 – December 2021	██████	██████	3,663	PI Salary	b
August 2021 – March 2022	██████	██████	2,429	Duplicate Salary and Fringe	c
August 2021 – April 2023	██████	██████	37,850	Compensation Paid Using Two Rates	d
December 2021 – April 2022	██████	██	23,208	Override Salary	e
May 2022	██████	██████	614	PI's Extra Compensation	f
July 2022 – August 2022	██████	██████	742	Incorrect Co-PI Monthly Salary Rate	g

<sup>9</sup> █████ issued the subaward to █████ for activities performed by █████.

<sup>10</sup> According to 2 CFR § 200.430 (December 26, 2014; revised November 12, 2020), *Compensation – Personal Services*, (i)(1), charges for salaries and wages must be based on records that accurately reflect the work performed and must support the distribution of the employee's salary or wages among specific activities or cost objectives.

<sup>11</sup> According to NSF PAPPGs 19-1 and 20-1, Part I, Chapter II, C. Proposal Contents, *Senior Personal Salaries and Wages Policy*, the organization must document the effort in accordance with 2 CFR § 200, Subpart E, including 2 CFR § 200.430(i).

Source: Auditor summary of identified exceptions.

- a) Between November 2019 and December 2021, [REDACTED] ([REDACTED]) charged NSF Award No. [REDACTED] for \$63,113 in unallowable salary expenses. Specifically, [REDACTED] stated that it charged salary expenses based on the approved subaward budget, rather than based on actual effort.<sup>12</sup> Further, [REDACTED] did not provide documentation to support that it appropriately calculated the expenses consistent with the employees' established pay rates and the level of effort or actual activity the employees performed.
- b) Between November 2019 and December 2021, [REDACTED] charged NSF Award No. [REDACTED] for \$3,663 in unallowable salary expenses for the Principal Investigator (PI). Specifically, [REDACTED] stated that it charged salary expenses based on the approved subaward budget, rather than based on actual effort. Further, [REDACTED] did not provide documentation to support that it appropriately calculated the expenses based on the PI's established pay rate and the level of effort or actual activity the PI performed.
- c) Between August 2021 and March 2022, [REDACTED] [REDACTED] charged NSF Award No. [REDACTED] for \$2,429 in unallowable salary and fringe expenses for a research assistant. Specifically, the formulas in [REDACTED] manual salary **allocation** spreadsheet included errors that caused [REDACTED] to charge duplicate salary and fringe expenses to the NSF award.
- d) Between August 2021 and April 2023, [REDACTED] ([REDACTED]) charged NSF Award No. [REDACTED] for \$37,850 in unallowable salary expenses. Specifically, in addition to paying the employee based on their standard pay rate, [REDACTED] paid the employee \$37,850<sup>13</sup> based on an hourly pay rate that was higher than the employee's standard pay rate.
- e) Between December 2021 and April 2022, [REDACTED] ([REDACTED]) charged NSF Award No. [REDACTED] for \$23,208 in unallowable salary and wage expenses for the PI. Specifically, [REDACTED] compensated the PI using "override"<sup>14</sup> payments in addition to the PI's institutional base salary (IBS), and the documentation [REDACTED] provided did

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<sup>12</sup> According to 2 CFR § 200.430 (December 26, 2014), *Compensation – Personal Services*, (i)(1), budget estimates (i.e., estimates determined before the organization performs the services) alone do not qualify as support for charges to federal awards.

<sup>13</sup> [REDACTED] did not apply its fringe benefit or indirect cost rates to the salary expenses that it calculated using the higher hourly rate.

<sup>14</sup> Override compensation is paid for work that goes beyond the negotiated workload. Specifically, according to [REDACTED] union agreements with the [REDACTED], section 29.7, *Grant, Contract, and Contract Course Salaries*, if an employee is assigned work on an externally funded grant or contract, other than a research professional who has been hired as a grant-funded employee, the work may be excluded from her/his assigned obligation. This amount shall be in addition to the employee's basic salary.

not support that the expenses charged were appropriate per the PI's IBS and certified level of effort.<sup>15</sup>

- f) In May 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$614 in unallowable salary expenses for the PI. Specifically, although [REDACTED] calculated the PI's salary using the PI's IBS, as proposed in the approved budget, [REDACTED] paid the PI extra compensation that it calculated using an hourly rate that exceeded the PI's hourly rate per their IBS.
- g) Between July and August 2022, the [REDACTED] charged NSF Award No. [REDACTED] for \$742 in unallowable salary expenses for the co-PI. Specifically, the expenses that [REDACTED] charged exceeded the allowable expenses based on the co-PI's IBS.

### ***Unallowable Invoice Payment***

Northeastern charged one NSF award for \$3,000 in unallowable expenses paid to the [REDACTED] that did not benefit the award, as illustrated in Table 6.

**Table 6: Unallowable Invoice Payment**

Expense Date	NSF Award No.	Unallowable Total	Unallowable Expenses Associated With	Notes
May 2023	[REDACTED]	\$3,000	Overpaid Invoice	a

Source: Auditor summary of identified exception.

- a) In May 2023, Northeastern charged NSF Award No. [REDACTED] for \$3,000 that it erroneously overpaid when processing an invoice from [REDACTED]. Northeastern stated that [REDACTED] credited the overpayment on a subsequent invoice that was outside the scope of our audit.

### ***Unallowable Travel Expenses***

Northeastern charged one NSF award for travel expenses invoiced by one subawardee that were not allowable, per federal regulations<sup>16</sup> and NSF PAPPGs,<sup>17</sup> as illustrated in Table 7.

<sup>15</sup> According to 2 CFR § 200.430 (revised November 12, 2020), *Compensation – Personal Services*, (i)(2), charges for work that faculty members perform on federal awards during the academic year are allowable at the IBS rate. Further, section (i)(4) states that Extra Service Pay normally represents overload compensation, subject to institutional compensation policies for services above and beyond IBS, and is allowable if the supplementation amount paid is commensurate with the IBS pay rate and the amount of additional work performed.

<sup>16</sup> According to 2 CFR § 200.475 (revised November 12, 2020), *Travel costs*, (e), *Commercial air travel*, airfare costs in excess of the basic, least expensive unrestricted accommodations class offered by commercial airlines are unallowable except when such accommodations would: (i) require circuitous routing, (ii) require travel during unreasonable hours, (iii) excessively prolong travel, or (iv) result in additional costs that would offset the transportation savings.

<sup>17</sup> According to NSF PAPPG 20-1, Part I, Chapter II, *C. Proposal Contents*, Section 2.g.(iv), *Travel*, (a) *General*, "Allowance for air travel normally will not exceed the cost of round-trip, economy airfares."



**Table 7: Unallowable Travel Expenses**

Subawardee Expense Date	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
June 2022			\$1,433	Airfare Class	a

Source: Auditor summary of identified exception.

- a) In June 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$1,433 in airfare expenses that were unallowable because the fare class purchased exceeded the basic, least expensive unrestricted accommodations.

## Conclusion

Northeastern did not have sufficient policies and procedures or internal controls in place to ensure it only charged allowable expenses to NSF awards. Specifically, Northeastern's policies, procedures, and internal controls did not always ensure that it charged subaward expenses based on the relative benefits the NSF award(s) received; subawardees appropriately obtained NSF's approval for subawards; subawardees charged salary and fringe expenses based on actual expenses incurred and in accordance with federal requirements; Northeastern paid the correct amounts invoiced by its subawardees; and subawardees did not charge unallowable airfare to NSF awards. We are therefore questioning \$936,125 of unallowable expenses charged to six NSF awards. Northeastern agreed to reimburse NSF for \$514,630 of the questioned costs but disagreed with the remaining \$421,495, as illustrated in Table 8.

**Table 8: Finding 1 Summary: Unallowable Expenses**

NSF Award No.	Organization	Description	Fiscal Year(s)	Questioned Costs			
				Direct	Indirect	Total	Northeastern Agreed to Reimburse
[REDACTED]	Northeastern	June 2020 Unallowable Subaward Payment	2020	\$403,142	\$0	\$403,142	\$403,142
[REDACTED]	[REDACTED]	February 2020 to April 2023 Unapproved Subaward	2020 – 2023	388,678	8,253	396,931	-
[REDACTED]	[REDACTED]	November 2019 to December 2021 Unallowable Salary	2020 – 2022	57,375	5,738	63,113	63,113
[REDACTED]	[REDACTED]	November 2019 to December 2021 Unallowable Salary	2020 – 2022	3,330	333	3,663	3,663
[REDACTED]	[REDACTED]	August 2021 to March 2022 Unallowable Salary and Fringe Benefits	2022	2,208	221	2,429	2,429

NSF Award No.	Organization	Description	Fiscal Year(s)	Questioned Costs			
				Direct	Indirect	Total	Northeastern Agreed to Reimburse
██████	██████	August 2021 to April 2023 Unallowable Salary	2022 – 2023	37,850	-	37,850	37,850
██████	██████	December 2021 to April 2022 Unallowable Salary	2022	15,681	7,527	23,208	-
██████	██████	May 2022 Unallowable Salary	2022	409	205	614	-
██████	██████	July 2022 to August 2022 Unallowable Salary	2023	501	241	742	-
██████	██████████	May 2023 Overpaid Invoice	2023	3,000	-	3,000	3,000
██████	██████	June 2022 Unallowable Airfare Class	2022	1,042	391	1,433	1,433
<b>Total</b>				<b><u>\$913,216</u></b>	<b><u>\$22,909</u></b>	<b><u>\$936,125</u></b>	<b><u>\$514,630</u></b>

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 1.1. Resolve the \$421,495 in questioned subaward and salary expenses for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2. Direct Northeastern to provide documentation supporting that it has repaid or otherwise credited the \$514,630 in questioned subaward, salary, and travel expenses for which it has agreed to reimburse NSF.
- 1.3. Direct Northeastern to strengthen its procedures and internal controls around invoice processing to ensure that it allocates subaward payments to the correct award.
- 1.4. Direct Northeastern to strengthen its internal controls and processes for obtaining NSF approval for subawards. This could include:
  - Requiring Sponsored Projects Administration to verify whether the entity explicitly identified all subawards within the approved award budget or obtained written approval from the NSF Grants Officer before establishing the subaward.

- Requiring periodic training for Principal Investigators and other personnel responsible for identifying subaward agreements under NSF awards.
- 1.5. Direct Northeastern to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure that subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include:
- Implementing additional procedures that require Northeastern to verify that subawardees submit invoices based on actual expenses incurred, rather than on the award budget.
  - Developing additional resources for subawardees that provide guidance for charging allowable expenses—including salary, fringe benefit, and travel expenses—consistent with federal and NSF regulations.
- 1.6. Direct Northeastern to strengthen its policies, procedures, and internal controls for processing subaward invoices to ensure it only pays subawardees for the reimbursement amount requested.

**Northeastern University Response:** Northeastern agreed to reimburse NSF for \$514,630 in unallowable expenses but disagreed with the remaining \$421,495 in unapproved subaward expenses and unallowable salary and fringe benefit expenses, as follows.

***Unapproved Subaward Expenses***

Northeastern disagreed with this finding and the questioned costs, stating that [REDACTED], [REDACTED], and NSF met to discuss the opportunity to add [REDACTED] as a third-tier subrecipient. Furthermore, Northeastern noted that [REDACTED] participated in several meetings with NSF related to the award project and that Northeastern had included [REDACTED] in the Year 1 sixth-month progress report. Lastly, Northeastern stated that, although it was unable to locate documentation of NSF's approval to support the inclusion of [REDACTED] as a subrecipient on the award, it provided an email that included [REDACTED]; the NSF Program Director acknowledged the email, and the Project Officer was cc'd. As such, Northeastern disagrees with the finding and questioned costs.

***Unallowable Salary and Fringe Benefit Expenses***

Northeastern disagreed with the findings and \$23,950 of the questioned salary and fringe expenses, stating that it is reasonable for the prime recipient to rely on the subrecipient, especially when the subrecipient is subject to a Single Audit. Northeastern further stated that requiring the prime recipient to track the subrecipient's salary expenses would cause the prime recipient to incur an unreasonable administrative burden and would increase the risk of the prime recipient receiving personally identifiable information related to the subrecipient's PI. In addition, Northeastern disagreed with an additional \$614 of the questioned salary and fringe expenses, stating that it had derived the salary rate based on its continuing education agreement, which the faculty union and college administration had negotiated and established.

**Auditor's Additional Comments:** Our position regarding this finding has not changed. Regarding the unapproved subaward expenses, although Northeastern provided an email including [REDACTED] that the NSF Program Director acknowledged, it was unable to provide any documented approval from the NSF Grants Officer to support the inclusion of [REDACTED] as a subrecipient, as required by the NSF PAPPGs. Further, Northeastern acknowledged its inability to locate any documentation supporting NSF's approval for the inclusion of [REDACTED].

Regarding the \$23,950 in unallowable salary expenses, our position is not that the prime is responsible for assuming an unreasonable burden in tracking or obtaining documentation related to all of the subrecipient's expenses; instead, our position is that documentation must be available to support the expenses claimed. Because we did not receive documentation to support expenses claimed on NSF awards, our position regarding this finding has not changed. Further, regarding the \$614 in questioned salary and fringe expenses, we noted that Northeastern had established a rate based on the employee's IBS; however, we are questioning the amount in excess of the IBS, which did not appear to be supported. According to 2 CFR 200.430, overload compensation is allowable if it is commensurate with the IBS pay rate. Because the pay rate exceeded the IBS rate, we have questioned the difference, and our position has not changed.

## **FINDING 2: INADEQUATELY SUPPORTED EXPENSES**

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Northeastern did not provide documentation to support the allocability, allowability, and reasonableness of \$104,092 in expenses charged to seven NSF awards during the audit period, as required per federal regulations<sup>18</sup> and NSF PAPPGs.<sup>19</sup>

### ***Unsupported Subaward Expenses***

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Northeastern and its subawardees did not provide documentation to support \$45,478 in expenses charged to three NSF awards, as required for the costs to be allowable, per both the federal regulations<sup>20</sup> and NSF PAPPGs,<sup>21</sup> as illustrated in Table 9.

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<sup>18</sup> According to 2 CFR § 200.403 (December 26, 2014; revised November 12, 2020), *Factors affecting allowability of costs*, (g), in order for a cost to be allowable, the cost must be adequately documented. Further, (a) states that, in order for a cost to be allowable, it must be necessary and reasonable for the performance of the federal award.

<sup>19</sup> According to NSF PAPPGs 19-1, 20-1, and 22-1, Part II, Chapter X, A. *Basic Considerations*, grantees should ensure all costs charged to NSF awards meet the requirements of the cost principles contained in 2 CFR § 200, Subpart E, *Cost Principles*; grant terms and conditions; and any other specific requirements of both the award notice and the applicable program solicitation.

<sup>20</sup> According to 2 CFR § 200.302 (revised November 12, 2020), *Financial Management*, (b)(2-3), the non-federal entity's financial systems must provide accurate, current, and complete disclosure of the financial results of each federal award or program and contain information pertaining to expenditures.

<sup>21</sup> According to NSF PAPPGs 20-1 and 22-1, Part II, Chapter VIII, A. *Standards for Financial Management*, NSF grantees must meet the financial management systems requirements of 2 CFR § 200.302.

**Table 9: Unsupported Subaward Expenses**

Expense Date(s)	NSF Award No.	Subawardee	Northeastern Paid to Subawardee	Subawardee Data Supports	Unsupported Amount	Notes
August 2020, October 2020, and February 2023	██████	████	\$241,961	\$245,735	\$0	<b>a</b>
September 2020 – March 2022	██████	██████	107,964	74,876	33,088	<b>b</b>
February 2022 – June 2023	██████	████	21,474	9,084	12,390	<b>c</b>

Source: Auditor summary of identified exceptions.

- a)** In August 2020, October 2020, and February 2023, Northeastern charged NSF Award No. ██████ for a total of \$241,961 in subaward expenses for █████ however, █████ GL data supported \$245,735 in cumulative costs. Specifically, █████ transaction-level data supported less than the amount that Northeastern reimbursed in August 2020 and more than the amount that Northeastern reimbursed in October 2020 and February 2023. Because █████ GL ultimately supports a larger expense than Northeastern reimbursed, and because Northeastern did not overcharge the NSF award, we are not questioning any costs associated with this exception.
- b)** Between September 2020 and March 2022, Northeastern charged NSF Award No. █████ for \$107,964 in subaward expenses for █████ however, █████ GL data only supported \$74,876 in cumulative costs. As a result, █████ invoiced \$33,088 in unsupported expenses.
- c)** Between February 2022 and June 2023, Northeastern charged NSF Award No. █████ for \$21,474 in subaward expenses for the █████ however, █████ GL data only supported \$9,084 in salary expenses. As a result, █████ invoiced \$12,390 in unsupported expenses.

### ***Inadequately Supported Salary and Fringe Benefit Expenses***

Northeastern and its subawardees did not provide documentation to support \$43,102 in salary and fringe benefit expenses charged to four NSF awards, as was required for the costs to be allowable per federal regulations<sup>22</sup> and NSF PAPPGs,<sup>23</sup> as illustrated in Table 10.

**Table 10: Inadequately Supported Salary and Fringe Benefit Expenses**

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Total Questioned	Inadequate Documentation to Support	Notes
March 2021 – August 2021	██████	████	\$5,000	PI's salary rate	<b>a</b>
December 2021 and June 2022	██████	████	1,328	Hourly pay rates and fringe rate	<b>b</b>
July 2022	██████	████	31,261	Co-PI's annual salary and activity performed	<b>c</b>
July 2022	██████	████	5,513	Employees' pay rates and activity performed	<b>d</b>

Source: Auditor summary of identified exceptions.

- a) Between March and August 2021, ██████ charged NSF Award No. ██████ for \$5,000 in salary expenses for the PI; however, ██████ did not provide documentation to support the PI's pay rate. Further, the timesheet data provided indicates the expenses included hours worked after the subaward end date of June 30, 2021.
- b) In December 2021 and June 2022, ██████ charged NSF Award No. ██████ for \$418 and \$910 in salary expenses for the co-PI and PI, respectively; however, ██████ did not provide documentation to support the hourly pay rates it used to calculate the amounts charged. Further, ██████ did not provide documentation to support the 26.50 percent fringe benefit rate it applied to the salary expenses.<sup>24</sup>
- c) In July 2022, the ██████ charged NSF Award No. ██████ for \$31,261 in salary expenses for the co-PI; however, ██████ did not provide documentation to support the co-PI's annual salary and level of effort or actual activity performed.

<sup>22</sup> According to 2 CFR § 200.430(8)(i) (December 26, 2014; revised November 12, 2020), *Standards for Documentation of Personnel Expense*, charges to federal awards for salaries and wages must be based on records that accurately reflect the work performed. These records must be supported by a system of internal control that provides reasonable assurance that the charges are accurate, allowable, and properly allocated.

<sup>23</sup> According to NSF PAPPGs 19-1 and 20-1, Part II, Chapter X, *B. Direct Costs*, Section 1. (a), *Salaries and Wages*, expenses for salaries and wages for employees working on an NSF award are allowable provided they are in accordance with 2 CFR § 200.430.

<sup>24</sup> We questioned the fringe benefits and indirect costs associated with the questioned salary above under *Unsupported Subaward Expenses*.



- d) In July 2022, the [REDACTED] charged NSF Award No. [REDACTED] for \$5,513 in salary expenses for two employees; however, [REDACTED] did not provide documentation to support that it appropriately calculated the expenses consistent with the employees' established pay rates and their level of effort or actual activity performed.

### ***Inadequately Supported Consultant Expenses***

Northeastern and its subawardees did not provide documentation to support that \$10,598 in consultant expenses charged to two NSF awards was allowable in accordance with federal regulations,<sup>25</sup> as illustrated in Table 11.

**Table 11: Inadequately Supported Consultant Expenses**

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Total Questioned	Inadequate Documentation to Support	Notes
February 2021 – April 2021	[REDACTED]	[REDACTED]	\$1,000	Payment terms, scope of work, and POP	<b>a</b>
July 2021 – February 2022	[REDACTED]	[REDACTED]	9,598	Payment terms, scope of work, and POP	<b>b</b>

Source: Auditor summary of identified exceptions.

- a) Between February and April 2021, [REDACTED] charged NSF Award No. [REDACTED] for \$1,000 in consultant expenses; however, [REDACTED] did not provide an agreement or other documentation to support the payment terms, scope of work, or POP.
- b) Between July 2021 and February 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$9,598 in consultant expenses related to a society of engineers; however, the invoice [REDACTED] provided did not relate to the sampled expenses, as it was dated January 2024 and supported an amount that was less than the amount charged. Further, [REDACTED] did not provide an agreement or other documentation to support the payment terms, scope of work, or POP, and it noted that it had based the amount charged on an allocation of the PI's overall costs, prorated based on the hours dedicated to the project.

<sup>25</sup> According to 2 CFR § 200.459 (December 26, 2014; revised November 12, 2020), *Professional Service Costs*, (b), in determining the allowability of costs in a particular case, the following factors are relevant: "(8) adequacy of the contractual agreement for the service (e.g., description of the service, estimate of time required, rate of compensation, and termination provisions)."

### ***Unsupported Travel Expenses***

Northeastern and one of its subawardees did not provide documentation to support \$4,675 in travel expenses charged to one NSF award, as required for the costs to be allowable per federal regulations,<sup>26</sup> as illustrated in Table 12.

**Table 12: Unsupported Travel Expenses**

Expense Date(s)	NSF Award No.	Subawardee	Total Questioned	Inadequate Documentation to Support	Notes
July 2021 – February 2022	██████	██████	\$4,675	Travel expenses	a

Source: Auditor summary of identified exception.

- a) Between July 2021 and February 2022, ██████ charged NSF Award No. ██████ for \$4,675 in travel expenses; however, ██████ did not provide any documentation to support the travel expenses and noted that it had based the amount charged on an allocation of the PI's overall travel expenses.

### ***Inadequately Supported Materials and Supplies Expenses***

Northeastern and one of its subawardees did not provide documentation to support \$239 in materials and supplies expenses charged to one NSF award, as required for the costs to be allowable per federal regulations<sup>27</sup> and NSF PAPPGs,<sup>28</sup> as illustrated in Table 13.

**Table 13: Inadequately Supported Materials and Supplies Expenses**

Expense Date	NSF Award No.	Subawardee	Total Questioned	Inadequate Documentation to Support	Notes
March 2021	██████	██████	\$239	Laptop benefit to project	a

Source: Auditor summary of identified exception.

- a) In March 2021, ██████ charged NSF Award No. ██████ for \$239 in laptop expenses; however, ██████ did not provide documentation to support that the expenses were reasonable and allowable. Specifically, ██████ initially charged the full amount of the laptop expense to the award in March 2021, then credited all but \$239 back to the project in June 2021. ██████ noted that it removed a portion of the expense due to the

<sup>26</sup> According to 2 CFR § 200.475 (revised November 12, 2020), *Travel Costs*, (a), travel costs are expenses for transportation, lodging, subsistence, and related items that may be charged on either an actual cost basis or a per diem basis, provided the method used results in charges in accordance with the non-federal entity's written travel reimbursement policies.

<sup>27</sup> According to 2 CFR § 200.403 (December 26, 2014), *Factors affecting allowability of costs*, (a), in order for a cost to be allowable, it must be necessary and reasonable for the performance of the federal award.

<sup>28</sup> According to NSF PAPPG 20-1, Part II, Chapter X, A. *Basic Consideration*, Section 2.c, *Post-End Date Costs*, grantees typically should not purchase items of equipment or computing devices or restock materials and supplies in anticipation of the end date of the grant where there is little or no time left to use such items in the actual conduct of the research.

timing of the expense; however, the PI is no longer with the institution, and [REDACTED] was therefore unable to confirm how it used the laptop to benefit the project.

## Conclusion

Northeastern did not have sufficient policies, procedures, or internal controls in place to ensure that it only reimbursed subawardees for actual expenses incurred. Further, Northeastern's subaward monitoring policies, procedures, and internal controls did not always ensure that subawardees retained documentation to support the allowability of salary expenses charged to NSF awards. We are therefore questioning \$104,092 of inadequately supported expenses charged to seven NSF awards. Northeastern agreed to reimburse NSF for \$96,012 of the questioned costs but disagreed with the remaining \$8,080, as illustrated in Table 14.

**Table 14: Finding 2 Summary: Inadequately Supported Expenses**

NSF Award No.	Subawardee	Description	Fiscal Year(s)	Questioned Costs			Northeastern Agreed to Reimburse
				Direct	Indirect	Total	
[REDACTED]	[REDACTED]	August 2020, October 2020, and February 2023 Unsupported Subaward Expenses	2021 – 2023	\$0	\$0	\$0	\$0
[REDACTED]	[REDACTED]	September 2020 – March 2022 Unsupported Subaward Expenses	2021 – 2022	33,088	-	33,088	33,088
[REDACTED]	[REDACTED]	February 2022 – June 2023 Unsupported Subaward Expenses	2022 – 2023	4,284	8,106	12,390	12,390
[REDACTED]	[REDACTED]	March to August 2021 Inadequately Supported Salary Expense	2021 – 2022	5,000	-	5,000	5,000
[REDACTED]	[REDACTED]	December 2021 and June 2022 Inadequately	2022	1,328	-	1,328	-

NSF Award No.	Subawardee	Description	Fiscal Year(s)	Questioned Costs			
				Direct	Indirect	Total	Northeastern Agreed to Reimburse
		Supported Salary Expenses					
██████	██████	July 2022 Inadequately Supported Salary Expense	2023	28,419	2,842	31,261	31,261
██████	██████	July 2022 Inadequately Supported Salary Expense	2023	3,735	1,778	5,513	-
██████	██████	February - April 2021 Inadequately Supported Consultant Expense	2021	1,000	-	1,000	-
██████	██████	July 2021 – February 2022 Inadequately Supported Consultant Expense	2022	8,725	873	9,598	9,598
██████	██████	July 2021 – February 2022 Unsupported Travel Expense	2022	4,250	425	4,675	4,675
██████	██████	March 2021 Inadequately Supported Materials and Supplies	2021	239	-	239	-
<b>Total</b>				<u><b>\$90,068</b></u>	<u><b>\$14,024</b></u>	<u><b>\$104,092</b></u>	<u><b>\$96,012</b></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 \$8,080 in questioned inadequately supported salary, consultant, and material and supply expenses for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2. Direct Northeastern to provide documentation supporting that it has repaid or otherwise credited the \$96,012 in questioned subaward, salary, consultant, and travel costs for which it has agreed to reimburse NSF.
- 2.3. Direct Northeastern to implement additional procedures that require it—or its subawardees—to perform periodic reconciliations to ensure expenses paid to its subawardees are supported by the subawardees' financial records.
- 2.4. Direct Northeastern to develop additional resources for subawardees that provide guidance regarding the types of documentation subawardees are required to create and retain to support salary, consultant, travel, and materials and supplies expenses charged to NSF awards.

**Northeastern University Response:** Northeastern agreed to reimburse NSF for \$96,012 of questioned costs related to inadequately supported subaward, salary, consultant, and travel expenses but disagreed with the remaining \$8,080 of questioned costs related to inadequately supported salary, consultant, and material and supply expenses. Specifically, Northeastern stated that it is reasonable for the prime recipient to rely on the subrecipient, especially when the subrecipient is subject to a Single Audit. Northeastern further stated that requiring the prime recipient to track the subrecipient's salary expenses would cause the prime recipient to incur an unreasonable administrative burden and would increase the risk of the prime recipient receiving personally identifiable information related to the subrecipient's PI.

**Auditor's Additional Comments:** Our position regarding this finding has not changed. Specifically, our position is not that the prime is responsible for assuming an unreasonable burden in tracking or obtaining documentation related to all of the subrecipient's expenses; instead, our position is that documentation must be available to support the expenses claimed. Because we were unable to obtain documentation to support expenses claimed on NSF awards, our position regarding this finding has not changed.

### **FINDING 3: INDIRECT COST RATES NOT APPROPRIATELY APPLIED**

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Northeastern did not ensure its subawardees applied their indirect cost rates consistent with their federal **Negotiated Indirect Cost Rate Agreements (NICRAs)** and/or federal regulations. As a result, Northeastern charged \$8,865 in unallowable indirect costs to three NSF awards, and its subawardees inappropriately applied indirect cost rates to direct expenses charged to two NSF awards, as illustrated in Table 15.

**Table 15: Indirect Cost Rates Not Appropriately Applied**

NSF Award No.	Subawardee	Subaward Date	Subawardee Expense Date(s)	Rate Applied (%)	Appropriate Rate (%)	Inappropriately Charged Indirect Costs	Notes
██████	██████	09/01/2019	09/01/2019 - 08/31/2023	35.58	0.00	\$2,812	<b>a</b>
██████	██████	08/02/2019	01/01/2020 - 12/31/2021	10.00 <sup>29</sup>	10.00	5,485	<b>b</b>
██████	██████	04/01/2020	04/01/2021 - 07/31/2021	64.50	64.50	-	<b>c</b>
██████	██████	08/01/2021	08/01/2021 - 11/30/2021	10.00 <sup>30</sup>	10.00	568	<b>d</b>
██████	██████	08/01/2021	08/01/2021 - 06/30/2023	-	37.50	-	<b>e</b>
██████	██████	08/01/2021	08/01/2021 - 06/30/2023	-	10.00	-	<b>f</b>

Source: Auditor summary of identified exceptions.

- a) █████ charged NSF Award No. █████ for \$2,812 in unallowable indirect costs. Specifically, █████ inappropriately applied its indirect cost rate to more than \$25,000 in subaward expenses invoiced by one of its subawardees.<sup>31</sup>
- b) █████ charged NSF Award No. █████ for \$5,485 in unallowable indirect costs. Specifically, because the direct expenses █████ invoiced to Northeastern exceeded the expenses supported by █████ financial accounting records (refer to **Finding 2**), █████ applied the 10 percent de minimis<sup>32</sup> indirect cost rate to the incorrect amount of direct costs. As a result, █████ overcharged indirect costs.
- c) █████ charged NSF Award No. █████ for indirect costs calculated using an inappropriate Modified Total Direct Cost (MTDC) base. Specifically, between April and July 2021, █████ did not include all of its salary, consultant, and materials and

<sup>29</sup> Although █████ applied the 10 percent de minimis rate, it did not apply the rate to the appropriate **Modified Total Direct Cost (MTDC)** base.

<sup>30</sup> Although █████ used the appropriate 10 percent de minimis rate, it applied this rate to direct expenses more than once, resulting in duplicate indirect costs.

<sup>31</sup> █████ NICRA (dated November 21, 2022) states that the MTDC base consists of total direct costs, excluding equipment, capital expenditures, participant support, and the portion of each subaward in excess of \$25,000 (regardless of the period covered by the subaward).

<sup>32</sup> According to 2 CFR § 200.414 (December 26, 2014), *Indirect (F&A) costs*, (f), “Any non-federal entity that has never received a negotiated indirect cost rate...may elect to charge a de minimis rate of 10 percent of modified total direct costs (MTDC) which may be used indefinitely.”



supplies expenses within the MTDC base that it used when applying its indirect cost rate.<sup>33</sup>

- d) [REDACTED] charged NSF Award No. [REDACTED] for \$568 in unallowable indirect costs. Specifically, when [REDACTED] transitioned to a new accounting system, it posted \$5,675 in salaries, fringe, other direct costs, and indirect costs incurred between August and November 2021 to its accounting system data as a lump-sum transaction. [REDACTED] included this lump-sum amount in the MTDC base it used when calculating indirect costs. However, because [REDACTED] included indirect costs in the lump-sum transaction amount, including the lump-sum amount in the MTDC base caused [REDACTED] to claim duplicate indirect costs.
- e) [REDACTED] charged NSF Award No. [REDACTED] for indirect costs that it calculated using an inappropriate MTDC base. Specifically, between August 2021 and June 2023, [REDACTED] only applied the 37.50 percent indirect cost rate to a portion of the salary expenses it charged for one employee; it inappropriately excluded the remaining salary expenses from the MTDC base.<sup>34</sup>
- f) [REDACTED] charged NSF Award No. [REDACTED] for indirect costs that it calculated using an inappropriate MTDC base. Specifically, between August 2021 and June 2023, [REDACTED] only applied the 10 percent de minimis indirect cost rate to salaries and wages and consultant expenses; it inappropriately excluded fringe benefits, travel, and materials and supplies expenses from the MTDC base.<sup>35</sup>

## Conclusion

Northeastern did not have sufficient policies, procedures, or internal controls in place to ensure its subawardees charged direct expenses to GL accounts consistent with their NICRAs and/or appropriately applied the indirect cost rates to actual expenses supported by their GL details. We are therefore questioning \$8,865 in indirect costs charged to three NSF awards and noting compliance exceptions for the three instances in which Northeastern's subawardees applied indirect cost rates to the incorrect MTDC base. Northeastern agreed to reimburse NSF for \$6,053 of the questioned costs but disagreed with the remaining \$2,812, as illustrated in Table 16.

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<sup>33</sup> [REDACTED] NICRA (dated May 5, 2021) states that the MTDC base consists of direct salaries and wages, including vacation, holiday, sick pay, and other paid absences but excluding all other fringe benefits. Total direct costs exclude capital expenditures (i.e., buildings, individual items of equipment, and alterations and renovations), that portion of each subaward in excess of \$25,000, and flow-through funds.

<sup>34</sup> [REDACTED] NICRA (dated October 6, 2021) states that the MTDC base consists of total direct costs, excluding capital expenditures, equipment, participant support, and the portion of each subaward in excess of \$25,000 (regardless of the period covered by the subaward).

<sup>35</sup> According to 2 CFR § 200.68 (December 26, 2014), *Modified Total Direct Cost (MTDC)*, MTDC consists of all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward. 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.

**Table 16: Finding 3 Summary: Indirect Cost Rates Not Appropriately Applied**

NSF Award No.	Subawardee	Description	Fiscal Year(s)	Questioned Costs			
				Direct	Indirect	Total	Northeastern Agreed to Reimburse
██████	████	September 2019 to August 2023 Subaward Expenses Exceeding 25K Included in MTDC Base	2020 - 2024	\$0	\$2,812	\$2,812	\$0
██████	██████	January 2020 to December 2021 Indirect Cost Rate Not Applied to Appropriate MTDC Base	2020 - 2022	-	5,485	5,485	5,485
██████	████	April 2021 to July 2021 Salary, Consultant, and Materials and Supplies Excluded from MTDC Base	2021 - 2022	-	-	-	-
██████	██████	August 2021 to November 2021 Duplicate Indirect Costs	2022	-	568	568	568
██████	████	August 2021 to June 2023 Salary Expenses Excluded from MTDC Base	2022 - 2023	-	-	-	-
██████	██████	August 2021 to June 2023 Fringe Benefits, Travel, and Materials and Supplies Excluded from MTDC Base	2022 - 2023	-	-	-	-
<b>Total</b>				<u><b>\$0</b></u>	<u><b>\$8,865</b></u>	<u><b>\$8,865</b></u>	<u><b>\$6,053</b></u>

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 3.1. Resolve the \$2,812 in questioned indirect costs for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 3.2. Direct Northeastern to provide the documentation supporting that it has repaid or otherwise credited the \$6,053 in questioned indirect costs for which it has agreed to reimburse NSF.
- 3.3. Direct Northeastern to strengthen its policies, procedures, and internal control processes for ensuring its subawardees appropriately apply either their federally negotiated indirect cost rates or the de minimis rate to NSF awards. These updated procedures could include:
  - Requiring personnel responsible for approving invoices to perform a calculation to determine whether the indirect costs invoiced are appropriate based on the direct costs invoiced and the rate identified in the subawardee's Negotiated Indirect Cost Rate Agreement (or the de minimis rate when the subawardee does not have a federally negotiated rate).
  - Developing resources that provide guidance on appropriately applying indirect cost rates to all direct costs that should be included in the Modified Total Direct Cost base, per the subawardee's negotiated indirect cost rate agreements and federal regulations.
  - Developing resources that provide guidance on accurately classifying all costs for accounts included within the Modified Total Direct Cost base and on applying the indirect cost rate to those accounts.

**Northeastern University Response:** Northeastern agreed to reimburse NSF for \$6,053 of the questioned costs but disagreed with the remaining \$2,812. Specifically, Northeastern stated that [REDACTED] incurred costs on its GL but did not invoice Northeastern for these costs, and Northeastern did not request reimbursement from NSF.

**Auditor's Additional Comments:** Our position regarding this finding has not changed. Specifically, our analysis of the general ledger and the expenses incurred and charged to NSF Award No. [REDACTED] shows that Northeastern claimed the questioned indirect costs that were incurred by [REDACTED]. Further, our assessment of the federal regulations and [REDACTED] NICRA indicates that Modified Total Direct Costs must exclude the portion of each subaward in excess of \$25,000. Because [REDACTED] applied its indirect cost rate to more than \$25,000 of its subaward expenses, our position regarding this finding has not changed.

#### FINDING 4: INAPPROPRIATELY ALLOCATED SALARY EXPENSE

One Northeastern subawardee did not always allocate salary expenses to NSF awards based on the relative benefits the awards received, as required per federal regulations<sup>36</sup> and NSF PAPPGs,<sup>37</sup> as illustrated in Table 17.

**Table 17: Inappropriately Allocated Salary Expense**

Subawardee Expense Date	NSF Award No.	Subawardee	Amount Charged	Percent Allocable (%)	Amount Inappropriately Allocated	Notes
October 2021	██████	██████	\$487	100	-	a

Source: Auditor summary of identified exception.

- a) In October 2021, ██████ charged NSF Award No. ██████ for \$487 in PI salary expenses; however, ██████ calculated the expense incorrectly. Because ██████ calculated the expense using fewer hours than the employee actually worked on the NSF award charged, we are not questioning any costs associated with this exception.

#### Conclusion

Northeastern did not have sufficient policies and procedures or internal controls in place to ensure that it allocated expenses based on the relative benefits the NSF award(s) received. Specifically, Northeastern did not ensure that the subawardee appropriately calculated salary expenses based on actual work performed for the NSF award charged. We are therefore noting a compliance exception for the instance in which Northeastern's subawardee did not allocate salary expenses consistent with the benefit the NSF award received, as illustrated in Table 18.

**Table 18: Finding 4 Summary: Inappropriately Allocated Salary Expense**

NSF Award No.	Subawardee	Description	Fiscal Year
██████	██████	October 2021 Inappropriately Allocated Salary	2022

Source: Auditor summary of identified exception.

<sup>36</sup> According to 2 CFR § 200.405 (revised November 12, 2020), *Allocable costs*, (a), a cost is allocable to a federal award if the cost is assignable to that award in accordance with the relative benefits received and incurred specifically for the federal award.

<sup>37</sup> NSF PAPPG 20-1, Part II, Chapter X, A. *Basic Considerations*, grantees should ensure all costs charged to NSF awards meet the requirements of 2 CFR § 200, Subpart E, *Cost Principles*; grant terms and conditions; and any other specific requirements of both the award notice and the applicable program solicitation.

## Recommendations

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

- 4.1 Direct Northeastern to develop additional resources for subawardees that provide guidance regarding how to calculate salary expenses and allocate the expenses consistent with the benefits received by the award charged.

**Northeastern University Response:** Northeastern agreed with this finding, stating that it will develop a subrecipient support toolkit in the form of an openly available website while also promoting the use of fixed-price subawards.

**Auditor's Additional Comments:** Our position regarding this finding has not changed.

### FINDING 5: FRINGE BENEFIT RATES NOT APPROPRIATELY APPLIED

One Northeastern subawardee did not consistently apply the fringe benefit rates established in its formal rate agreements when charging fringe benefits to two NSF awards, as illustrated in Table 19.

**Table 19: Fringe Benefit Rates Not Appropriately Applied**

NSF Award No.	Subawardee	Subaward Date	Subawardee Expense Date(s)	Rate Applied (%)	Appropriate Rate (%)	Notes
██████	██████	08/17/2021	11/01/2021 – 04/30/2023	38.32	41.35 <sup>38</sup>	a
██████	██████	08/30/2019	05/21/2022	37.99	39.43 <sup>39</sup>	b

Source: Auditor summary of identified exceptions.

- a) ██████ charged NSF Award No. ██████ for fringe benefits calculated using an inappropriate fringe benefit rate. Specifically, when calculating fringe benefits for salaries earned between November 2021 and April 2023, ██████ applied its FY 2021 fringe benefit rate of 38.32 percent, rather than its FY 2022 and FY 2023 fringe benefit rates of 39.43 percent and 41.35 percent, respectively.
- b) ██████ charged NSF Award No. ██████ for fringe benefits calculated using an inappropriate fringe benefit rate. Specifically, when calculating fringe benefits for

<sup>38</sup> ██████ NICRA (dated August 6, 2020) established a fringe benefit rate of 38.32 percent for salaries earned between August 1, 2020, and July 30, 2021. Additionally, ██████ NICRA (dated August 9, 2021) established a fringe benefit rate of 39.43 percent for salaries earned between August 1, 2021, and July 30, 2022. Lastly, ██████ NICRA (dated August 25, 2022) established a fringe benefit rate of 41.35 percent for salaries earned between August 1, 2022, and July 30, 2023.

<sup>39</sup> ██████ NICRA (dated January 22, 2019) established a fringe benefit rate of 37.99 percent for salaries earned between August 1, 2019, and July 30, 2020. Additionally, ██████ NICRA (dated August 9, 2021) established a fringe benefit rate of 39.43 percent for salaries earned between August 1, 2021, and July 30, 2022.

salaries earned in May 2022, [REDACTED] applied its FY 2020 fringe benefit rate of 37.99 percent, rather than its FY 2022 fringe benefit rate of 39.43 percent.

## Conclusion

Northeastern did not have sufficient policies, procedures, or internal controls in place to ensure its subawardee verified that it updated its fringe benefit rates upon receiving the fixed rates in its updated NICRAs or verified that it appropriately applied fringe benefit rates to salary expenses based on the FY in which the employee earned the salary. Because these instances in which the subawardee did not apply the appropriate fringe benefit rates did not result in Northeastern charging unallowable costs to the NSF awards, we are not questioning any expenses related to these exceptions. However, we are noting two compliance exceptions for the instances in which Northeastern's subawardee applied the incorrect fringe benefit rates, as illustrated in Table 20.

**Table 20: Finding 5 Summary: Fringe Benefit Rates Not Appropriately Applied**

NSF Award No.	Subawardee	Description	Fiscal Year(s)
[REDACTED]	[REDACTED]	November 2021 to April 2023 Fringe Benefit Rates Not Appropriately Applied	2022 - 2023
[REDACTED]	[REDACTED]	May 2022 Fringe Benefit Rate Not Appropriately Applied	2022

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 5.1. Direct Northeastern to strengthen its subaward monitoring procedures to ensure it verifies that its subawardees either apply the appropriate fringe benefit rates included in their negotiated agreements or document their election to use the proposed fringe benefit rates. These procedures should address how Northeastern will ensure the subawardee's decision to use proposed fringe benefit rates will not cause the subawardee to overcharge NSF for fringe benefits in cases where fringe benefit rates decrease between the date the subaward is proposed and the date the subaward is awarded.

**Northeastern University Response:** Northeastern agreed with this finding, stating that it will develop a subrecipient support toolkit in the form of an openly available website.

**Auditor's Additional Comments:** Our position regarding this finding has not changed.



## FINDING 6: NON-COMPLIANCE WITH FEDERAL FINANCIAL MANAGEMENT REQUIREMENTS

Northeastern's subawardees did not have sufficient policies and procedures for determining the allowability of costs and/or did not have financial management systems that provided for the complete disclosure of financial results,<sup>40</sup> as illustrated in Table 21.

**Table 21: Non-Compliance with Federal Financial Management Requirements**

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Exception Description	Notes
January 2020 – December 2021	██████	██████	No policies or procedures for determining the allowability of sampled costs	<b>a</b>
March 2021 – August 2021	██████	██████	Subawardee did not have transaction-level data from a financial accounting information system to support costs claimed	<b>b</b>
			No policies or procedures for determining the allowability of sampled costs	
July 2021 – February 2022	██████	██████	Subawardee did not have transaction-level data from a financial accounting information system to support costs claimed	<b>c</b>
November 2021 & March 2022	██████	██████	No policies or procedures for determining the allowability of sampled costs	<b>d</b>
January 2022 – March 2022	██████	██████	Subawardee did not have transaction-level data from a financial accounting information system to support costs claimed	<b>e</b>

Source: Auditor summary of identified exceptions.

- a) Between January 2020 and December 2021, ██████ charged salary expenses to NSF Award No. ██████. However, ██████ did not provide organizational policies or procedures for determining the allowability of this type of cost.
- b) Between March and August 2021, ██████ charged salary expenses to NSF Award No. ██████. ██████ provided time-entry data to support the expenses, as well as an explanation regarding how it determined the amount charged; however, ██████ did not have a financial accounting information system that provided for the complete

<sup>40</sup> According to 2 CFR § 200.302 (December 26, 2014; revised November 12, 2020), *Financial management*, (b)(2-3), the non-federal entity's financial management system must provide for the accurate, current, and complete disclosure of financial results and contain information pertaining to expenditures. Additionally, section (b)(7) states that the entity's financial management system must include written procedures for determining the allowability of costs in accordance with 2 CFR 200 Subpart E, *Cost Principles*, and the terms and conditions of the federal award.

disclosure of financial results and records pertaining to all expenditures. Additionally, [REDACTED] did not provide policies or procedures for determining the allowability of this type of cost.

- c) Between July 2021 and February 2022, [REDACTED] charged expenses to NSF Award No. [REDACTED]. As support, [REDACTED] provided a spreadsheet with hard-coded expense information that it appeared to have created for our audit. [REDACTED] therefore does not appear to have had a financial accounting information system that provided for the complete disclosure of financial results and records pertaining to all expenditures.
- d) In November 2021 and March 2022, [REDACTED] charged salary expenses to NSF Award No. [REDACTED]. However, [REDACTED] did not provide organizational policies or procedures for determining the allowability of this type of cost.
- e) Between January and March 2022, [REDACTED] charged salary and fringe expenses to NSF Award No. [REDACTED]. As support, [REDACTED] provided manual spreadsheets that it used to calculate the costs invoiced to Northeastern; however, it did not have a financial accounting information system that provided for the complete disclosure of financial results and records pertaining to all expenditures. Further, although [REDACTED] invoiced the appropriate amount of total fringe benefits, it did not correctly identify the fringe benefit expenses allocable to each individual employee.

## Conclusion

Northeastern's subawardees did not have sufficient policies and procedures or internal controls in place to ensure (1) their financial systems maintained records to support the accurate and complete disclosure of financial results and information pertaining to expenditures, and (2) they had documented policies and procedures for determining the allowability of costs. Because these instances of non-compliance may have resulted in Northeastern's subawardees charging NSF awards the unallowable, inadequately supported, unreasonable, or otherwise non-compliant costs identified in Findings 1 through 4, or could result in the subawardees charging unallowable costs to NSF awards in the future, we are noting compliance exceptions for the instances in which Northeastern's subawardees did not comply with federal requirements for financial management, as illustrated in Table 22.

**Table 22: Finding 6 Summary: Non-Compliance with Federal Financial Management Requirements**

NSF Award No.	Subawardee	Description
[REDACTED]	[REDACTED]	No policies or procedures for determining the allowability of sampled costs
[REDACTED]	[REDACTED]	No transaction-level data from a financial accounting information system to support costs claimed
		No policies or procedures for determining the allowability of sampled costs

NSF Award No.	Subawardee	Description
██████	██████	No transaction-level data from a financial accounting information system to support costs claimed
██████	██████	No policies or procedures for determining the allowability of sampled costs
██████	██████	No transaction-level data from a financial accounting information system to support costs claimed

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 6.1. Direct Northeastern to develop resources that provide its subawardees with guidance on the types of financial accounting system records, policies, and procedures necessary to demonstrate compliance with federal financial management systems requirements.

**Northeastern University Response:** Northeastern agreed with this finding, stating that it will develop a subrecipient support toolkit in the form of an openly available website while also promoting the use of fixed-price subawards.

**Auditor's Additional Comments:** Our position regarding this finding has not changed.

## FINDING 7: NON-COMPLIANCE WITH INSTITUTIONAL POLICIES

Northeastern and its subawardees did not comply with—or document their compliance with—institutional policies and procedures.

### *Non-Compliance with Northeastern's Subrecipient Risk Assessment and Monitoring Policy*

Northeastern did not provide documentation to support that one PI approved subaward invoices, as required per Northeastern's subrecipient risk assessment and monitoring policy,<sup>41</sup> as illustrated in Table 23.

<sup>41</sup> Northeastern's *Subrecipient Risk Assessment and Monitoring of Northeastern University Issued Subawards Policy, Roles and Responsibilities*, (8), states that it is the responsibility of the PI to approve all subrecipient invoices, in consultation with the individual who is aware of the cost incurred in relation to the work performed in the subcontract. The PI must review and approve all subrecipient invoices and forward the approved invoices to Research Finance for review, signature, and transmittal to Accounts Payable for payment processing.

**Table 23: Non-Compliance with Northeastern's Subrecipient Risk Assessment and Monitoring Policy**

NSF Award No.	Expense Date(s)	Exception Description	Notes
	4/4/2022	PI Did Not Approve Subaward Invoice	<b>a</b>
	6/30/2022	PI Did Not Approve Subaward Invoice	<b>b</b>
	12/19/2022	PI Did Not Approve Subaward Invoice	<b>c</b>

Source: Auditor summary of identified exceptions.

- a) In April 2022, Northeastern paid a [REDACTED] invoice. Although the Senior Director of Finance approved the invoice, Northeastern did not provide documentation to support that the PI approved the invoice.
- b) In June 2022, Northeastern paid a [REDACTED] invoice. Although the Senior Director of Finance approved the invoice, Northeastern did not provide documentation to support that the PI approved the invoice.
- c) In December 2022, Northeastern paid a [REDACTED] invoice. Although the Senior Director of Finance approved the invoice, Northeastern did not provide documentation to support that the PI approved the invoice.

#### ***Non-Compliance with Subawardee Institutional Policies***

Northeastern's subawardees did not complete and authorize documentation to support salary and travel expenses consistent with their institutional policies, as illustrated in Table 24.

**Table 24: Non-Compliance with Subawardee Institutional Policies**

NSF Award No.	Subawardee Expense Date(s)	Subawardee	Exception Description	Notes
[REDACTED]	7/19/2021	[REDACTED]	Invoice Approval from Department Manager Not Received	<b>a</b>
[REDACTED]	5/21/2022	[REDACTED]	Salary Certification Report Not Signed Within the 30-day Certification Period	<b>b</b>
[REDACTED]	6/30/2022	[REDACTED]	No Approved Travel Authorization Request Provided	<b>c</b>
[REDACTED]	7/29/2022	[REDACTED]	Timesheet Was Not Completed by the Employee, Signed by the Supervisor, and Submitted to the Director of Administration	<b>d</b>

Source: Auditor summary of identified exceptions.

- a) In July 2021, [REDACTED] charged NSF Award No. [REDACTED] for \$2,400 in expenses incurred for materials and supplies; however, it did not provide documentation to support that the manager of the department had approved the invoice for the

materials and supplies, as required by [REDACTED] *Standard Operating Procedures – Invoice Approval & Processing* policy.<sup>42</sup>

- b) In May 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$245 in salary expenses for extra compensation for the PI; however, the PI did not sign the effort certification covering the period from July 1, 2021, to June 30, 2022, until May 16, 2024, which was after the 30-day certification period dictated by [REDACTED] *Effort Reporting* policy.<sup>43</sup>
- c) In June 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$659 in expenses incurred for a research assistant's lodging while presenting at a conference; however, [REDACTED] did not provide a Travel Authorization Request that it had approved prior to the travel, as required per [REDACTED] *Travel and Expense* policy.<sup>44</sup>
- d) In July 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$26,650 in salary expenses for the co-PI; however, the co-PI did not complete a timesheet, obtain their supervisor's signature approving the timesheet, and ensure that the supervisor submitted the timesheet to the Director of Administration, as required by [REDACTED] *Standard Operating Procedures – Payroll, Time Sheet Preparation & Approval* policy.<sup>45</sup>

## Conclusion

Northeastern and its subawardees did not have sufficient internal controls in place to ensure that personnel complied with institutional policies. Specifically, Northeastern lacked controls to ensure it complied with its subrecipient risk assessment and monitoring policy and verified that the proper individuals approved subawardee invoices. Additionally, its subawardees lacked controls to ensure compliance with their documented approval requirements for salary, materials and supplies, and travel expenses. Because these instances of non-compliance did not directly result in Northeastern or its subawardees charging unallowable costs to NSF awards, we are not questioning any costs. However, we are noting compliance exceptions for the seven instances in which Northeastern or its subawardees did not comply with their institutional policies, as illustrated in Table 25.

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<sup>42</sup> [REDACTED] *Standard Operating Procedures* Policy, I. Finance, Section E, (D.1.), *Invoice Approval & Processing*, states that all invoices must be approved by the manager of the department for which the expense was incurred.

<sup>43</sup> [REDACTED] *Effort Reporting* Policy, Definitions Section, *Certification Period*, states that PIs or their proxies or designees have a 30-day time interval to certify their annual effort.

<sup>44</sup> [REDACTED] *Travel and Expense* Policy, Section I, *Travel Authorization Request (TAR)*, states that [REDACTED] must approve the TAR before personnel book any travel.

<sup>45</sup> [REDACTED] *Standard Operating Procedures* Policy, I. Finance, Section E, *Payroll, Time Sheet Preparation, 7 Approval*, states that employees must complete timesheets and submit them to their supervisors on the due date, based on the schedule produced at the beginning of the year. Supervisors review, correct if necessary, sign, and submit timesheets to the Director of Administration within 3 working days of the timesheet due date.

**Table 25: Finding 7 Summary: Non-Compliance with Institutional Policies**

NSF Award No.	Subawardee	Exception Description
██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy
██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy
██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy
██████	██████	Non-Compliance with Standard Operating Procedures – Invoice Approval & Processing Policy
██████	██████	Non-Compliance with Effort Reporting Policy
██████	██████	Non-Compliance with Travel and Expense Policy
██████	██████	Non-Compliance with Standard Operating Procedures – Payroll, Time Sheet Preparation & Approval Policy

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 7.1. Direct Northeastern to implement internal controls to ensure that Principal Investigators review and approve invoices—and document this approval—within the time limit defined in its policy.
- 7.2. Direct Northeastern to implement internal controls to ensure that its subawardees are in compliance with their own policies prior to incurring expenses they will charge to the subaward.

**Northeastern University Response:** Northeastern partially agreed with this finding. Specifically, Northeastern agreed to review its policies and procedures for compliance alignment and to develop a subrecipient support toolkit in the form of an openly available website while also promoting the use of fixed-price subawards. However, Northeastern disagreed with the finding related to a subrecipient’s non-compliance with its effort reporting policy, stating that it is reasonable for the prime recipient to rely on the subrecipient, especially when the subrecipient is subject to a Single Audit and is tracking IBS.

**Auditor’s Additional Comments:** Our position regarding this finding has not changed. A Single Audit does not explicitly verify that the organization has complied with its effort reporting policy with respect to individual salaries. Separately, the subawardee’s *Effort Reporting* policy explicitly states that the certification period is “the 30-day time interval for PIs, proxies or designees to certify annual effort.” Because the PI certified their effort report after the 30-day time interval had ended, our position regarding this finding has not changed.

## FINDING 8: NON-COMPLIANCE WITH SUBAWARD TERMS AND CONDITIONS

Northeastern did not ensure that its subawardees complied with the invoicing and reporting requirements identified in their subaward terms and conditions.

### *Non-Compliance with Subaward Invoice Requirements*

Northeastern did not ensure that one subawardee submitted invoices that included all of the necessary information, as required by the subaward terms and conditions,<sup>46</sup> as illustrated in Table 26.

**Table 26: Non-Compliance with Subaward Invoice Requirements**

NSF Award No.	Subaward Invoice Date	Subawardee	Exception Description	Notes
██████	June 2022	██████	Invoice did not include cumulative costs	<b>a</b>
██████	May 2023	██████	Invoice did not include cumulative costs	<b>b</b>

Source: Auditor summary of identified exceptions.

- a) In June 2022, ██████ invoiced Northeastern for expenses charged to NSF Award No. ██████ however, the invoice did not include cumulative costs.
- b) In May 2023, ██████ invoiced Northeastern for expenses charged to NSF Award No. ██████ however, the invoice did not include cumulative costs.

### *Non-Compliance with Subaward Reporting Requirements*

Northeastern did not ensure that 20 of its subawardees complied with the reporting requirements established in their subaward agreements.<sup>47</sup> Specifically, although the subaward agreements identified the types of reports subawardees were required to submit, Northeastern stated that its subawardees frequently collaborated with the PIs and project teams to communicate pertinent information required for each project, rather than providing Northeastern with the required reports to support its monitoring efforts,<sup>48</sup> as illustrated in Table 27.

<sup>46</sup> Subaward Terms and Conditions, Section 2, states that all invoices must be submitted using the subawardee's standard invoice, but at a minimum, the invoices shall include current and cumulative costs, breakdown by major cost category, subaward number, and certification that the invoice is true, complete, and accurate, as required in 2 CFR 200.415, *Require certifications*, (a).

<sup>47</sup> Attachment 4 of each subaward agreement, *Reporting and Prior Approval Terms*, included requirements for monthly reports, annual reports, a final technical/progress report, and/or a final invention report.

<sup>48</sup> According to 2 CFR 200.331 (December 26, 2014; revised November 12, 2020), *Subrecipient and contractor determinations*, (d)(1), pass-through entity monitoring of the subawardee must include reviews of those financial and performance reports required by the pass-through entity.



**Table 27: Non-Compliance with Subaward Reporting Requirements**

NSF Award No.	Subawardee	Quarterly Reports Required and Not Obtained	Annual Reports Required and Not Obtained	Final Technical/Progress Report Required and Not Obtained	Final Invention Report Required and Not Obtained
			X		
			X	X	
		X	X	X	X
			X		
		X	X		
			X	X	
			X		
			X	X	
			X	X	
			X		
			X		
			X		
			X	X	X
			X		
				X	X
			X		
			X		
			X		
			X		
			X		
		X	X		
		X	X		
			X		

Source: Auditor summary of identified exceptions.

## Conclusion

Northeastern and its subawardees did not have sufficient policies, procedures, or internal controls in place to ensure that subawardee invoices included all of the required data elements and that subawardees submitted all progress and technical reports required per the subaward agreements. Because these instances of non-compliance did not result in Northeastern charging unallowable costs to the NSF awards, we are not questioning any costs related to this finding. However, we are noting compliance exceptions for these instances in which Northeastern's subawardees did not comply with the subaward terms and conditions, as illustrated in Table 28.

### Table 28: Finding Summary 8: Non-Compliance with Subaward Terms and Conditions

[illegible]

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 8.1. Direct Northeastern to update its invoice review procedures to ensure that subawardee invoices include all of the data elements required per the subaward terms and conditions.
- 8.2. Direct Northeastern to implement additional policies or procedures to ensure that subawardees complete and submit any progress, technical, or other reports that Northeastern requires per the subaward terms and conditions.

**Northeastern University Response:** Northeastern partially agreed with this finding. Specifically, Northeastern agreed to develop a subrecipient support toolkit in the form of an openly available website. However, Northeastern disagreed with the remaining portion of the finding, stating that the applicable regulations, guidance, and subrecipient contracts

do not communicate the format of the required deliverables; in particular, they do not state that the deliverable must take the form of a written progress report, only that the subrecipient must provide the deliverable. As such, Northeastern believes that it included the required communications in the final report to NSF and that the PI deemed the communications from the subrecipients to be satisfactory.

**Auditor’s Additional Comments:** Our position regarding this finding has not changed. With respect to Northeastern’s position regarding the format of the required reports, Northeastern claims that it issued all reports to NSF in a manner sufficient to comply with the terms and conditions; however, Northeastern was unable to provide any documentation from the subrecipients to support the claim that the subrecipients provided sufficient detail to Northeastern. As we noted in the finding, Northeastern did communicate its collaboration with the subrecipients; however, the subrecipients did not provide documentation that it complied with the requirements of the subaward terms and conditions. As such, our position regarding this finding has not changed.

#### **AREA FOR IMPROVEMENT: INDIRECT COSTS AND ADJUSTMENTS NOT RECORDED IN SUBAWARDEES’ FINANCIAL INFORMATION SYSTEMS**

Two of Northeastern’s subawardees did not have a policy or procedure that required them to record indirect costs and adjustments within their financial accounting systems. Specifically, although the subawardees calculated indirect costs invoiced to Northeastern using the appropriate indirect cost rates and made the necessary adjustments to fringe benefit expenses, they did not ensure that they recorded these indirect costs and fringe adjustments in their financial accounting systems.<sup>49</sup> As a result, their GL data did not reconcile to cumulative costs claimed on NSF awards, as illustrated in Table 29.

**Table 29: Indirect Costs and Adjustments Not Recorded in Subawardees’ Financial Accounting Information System**

NSF Award No.	Subawardee	Subaward Date	Expense Dates	Costs Excluded from Subawardee GL	Notes
██████	██	04/01/2020	October 2020 – July 2021	\$14,125	a
██████	██	03/1/2020	March 2021 – February 2022	2,655	b

Source: Auditor summary of identified exceptions.

- a) From October 2020 to July 2021, █ charged NSF Award No. █ for \$14,945 in indirect costs that it did not post to its GL. Additionally, between April and July 2021, █ made an adjustment to reduce fringe benefits invoiced to Northeastern by

<sup>49</sup> According to 2 CFR § 200.302 (December 26, 2014), *Financial management*, (b)(3), the financial management system of each non-federal entity must have records that identify adequately the source and application of funds for federally funded activities. These records must contain information pertaining to federal awards, authorizations, financial obligations, unobligated balances, assets, expenditures, income, and interest and be supported by source documentation.

\$821; however, [REDACTED] did not post this credit adjustment to its GL or payroll system data.

- b) From March 2021 through February 2022, [REDACTED] charged NSF Award No. [REDACTED] for \$2,655 in indirect costs that it did not post to its GL.

## **Conclusion**

Northeastern's subawardees did not have a formal process and/or procedure for posting indirect costs and adjustments to their financial accounting information systems. Because these instances of Northeastern subawardees not recording indirect costs and fringe benefit adjustments in their financial accounting systems did not result in Northeastern and its subawardees charging unallowable expenses to NSF awards, we are not noting a finding. However, we are noting an area for improvement, as Northeastern subawardees not recording indirect cost transactions and fringe benefit adjustments in their financial accounting systems could result in Northeastern or its subawardees not being able to reconcile their GL data to expenses claimed or charging unallowable costs to NSF awards.

## **Consideration**

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

- Directing Northeastern to develop resources for subawardees that provide guidance on recording indirect costs and fringe benefit adjustments within their financial accounting systems or implementing other controls to ensure indirect costs are supported and reconcile to expenses claimed.

*Sikich CPA LLC*

January 30, 2025

## **APPENDIX A: NORTHEASTERN UNIVERSITY RESPONSE**

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## Northeastern University Research Enterprise Services

January 6, 2025

Sikich CPA LLP  
333 John Carlyle Street, Suite 500  
Alexandria, VA 22314

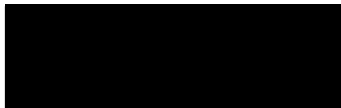
Attention: Andrew Holzer, CPA, CFE, CISA

Dear Mr. Holzer:

This letter constitutes Northeastern University's formal response to the findings and recommendations outlined in this audit report. The University appreciates the opportunity to work with Sikich and NSF to identify areas for improvement and to strengthen our controls. Northeastern University takes its obligation to steward and administer NSF awards seriously. While the University will work diligently to resolve these findings, we look to our collaborators to also review their policies and procedures, and through their audits, find ways to strengthen their controls as well.

NU has already reimbursed NSF \$406,142 via ACM\$. NU agrees to reimburse NSF for an additional \$210,553 and will take steps to complete any corrective actions for each of the findings outlined in the report.

Sincerely,



Alexandria Hui  
Executive Director, Research Finance Operations

## Northeastern University NSF Audit Response

NU has policies and procedures in place to ensure that expenditures on federal awards are allowable, allocable, reasonable and necessary. NU is committed to ensuring responsible stewardship of all extramural grant funding and will strengthen policies and procedures identified during the audit. It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries and other internal controls to manage federal awards.

### Finding 1: Unallowable Expenses

NSF Award	Organization	Description	Total	NU Response
██████	NU	June 2020 Inappropriately Allocated Subaward Payment	\$403,142	<p>NU agrees with this finding and has already reimbursed the NSF grant via ACM\$.</p> <p>The incorrect grant was referenced during the subaward invoice intake process and was routed to the PI for approval, which was approved and paid. The error was identified during audit and a cost transfer was immediately processed in April 2024 to transfer the invoice off NSF grant ██████. Funds were returned via NSF draw on 05/24. NU will implement additional controls to ensure subaward invoices reference the correct grants when processed.</p>
██████	██████	February 2020 to April 2023 Unapproved Subaward	396,931	<p>NU disagrees with this finding.</p> <p>This project is a collaborative agreement with NSF. The original proposal submitted on 6/21/2019 did not include ██████ (submitted by NU. However July 19, 2019 ██████), ██████, and NSF met to discuss the ██████ project plans in DC. It was at this meeting that ██████ was initially discussed as a subrecipient. Subsequent meetings took place in which NSF participated and endorsed the subaward to ██████, which was a third tier subrecipient through ██████. On August 3, 2019, NSF acknowledges and agrees to meeting minutes that took place the prior day, which includes the work performed by ██████. September 1, 2019, NSF issued the award to NU which only included the originally proposed subawardees. While NSF approval cannot be found to add them as a subrecipient in the proposal, there was email acknowledgement by the NSF Program Director on August 3, 2019, which included a CC to the Project Officer. Also ██████ was included in the year 1, 6<sup>th</sup> month progress report which was submitted to NSF in 2020 which included programmatic updates as well as financial expenditure details. Therefore NU disagrees with this finding and requests this subaward expense remain on the project as an allowable cost.</p>



■■■■■	■■■■■	November 2019 to December 2021 Unallowable Salaries	63,113	<p>NU agrees with the finding and will reimburse NSF in the amount of \$63,113.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	November 2019 to December 2021 Unallowable Salary	3,663	<p>NU agrees with the finding and will reimburse NSF in the amount of \$3,663.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	August 2021 to March 2022 Unallowable Salary and Fringe Benefits	2,429	<p>NU agrees with the finding and will reimburse NSF in the amount of \$2,429.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	August 2021 to April 2023 Unallowable Salary	37,850	<p>NU agrees with the finding and will reimburse NSF in the amount of \$37,850.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

██████	██████	December 2021 to April 2022 Unallowable Salary	23,208	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise, would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated with having unnecessary personally identifiable information in the form of PI salary documentation.</p>
██████	██████	May 2022 Unallowable Salary	617	<p>NU disagrees with this finding.</p> <p>██████ provided sufficient documentation to support the rates that were applied. The rate was derived directly from the guidelines established by the Division of Continuing Education Agreement (September 1, 2020 - August 31, 2023), which was negotiated and established by the faculty union and the college administration. This approach is supported by their institutional policy, and the compensation rate was approved by the Dean and further endorsed by the Provost. Institutional policy was followed and in line with 2 CFR §200.430(h)(1)(ii).</p>
██████	██████	July 2022 to August 2022 Unallowable Salary	742	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise, would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated with having unnecessary personally identifiable information in the form of PI salary documentation.</p>
██████	NU	May 2023 Overpaid Invoice	3,000	<p>NU agrees with the finding and has already returned funds back to NSF.</p> <p>The error was identified during audit and adjustments were made to project GL accounts. ████████ credited the overpayment to the next invoice that was submitted. NU will implement additional controls to ensure the appropriate amounts are identified and accounted for during the invoice intake process.</p>

		June 2022 Unallowable Airfare Class	1,433	<p>NU agrees with the finding and will reimburse NSF in the amount of \$1,433.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
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## Finding 2: Inadequately Supported Expenses

NSF Award	Organization	Description	Total	NU Response
		March to August 2021 Inadequately Supported Salary Expense	5,000	<p>NU agrees with the finding and will reimburse NSF in the amount of \$5,000.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
		December 2021 and June 2022 Inadequately Supported Salary Expenses	1,328	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated with having unnecessary personally identifiable information in the form of PI salary documentation.</p>
		July 2022 Inadequately Supported Salary Expense	5,513	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated</p>

				with having unnecessary personally identifiable information in the form of PI salary documentation.
■■■■■	■■■	February - April 2021 Inadequately Supported Consultant Expense	1,000	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated with having unnecessary personally identifiable information in the form of PI salary documentation.</p>
■■■■■	■■■	March 2021 Inadequately Supported Materials and Supplies	239	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries. To require otherwise would cause the Prime to assume an unreasonable administrative burden. In addition, the Prime would also assume an unreasonable risk associated with having unnecessary personally identifiable information in the form of PI salary documentation.</p>
■■■■■	■■■	August 2020, October 2020, and February 2023 Unsupported Subaward Expenses	0	<p>NU agrees with this finding and no further action required.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website.</p>
■■■■■	■■■■■	September 2020 – March 2022 Unsupported Subaward Expenses	33,088	<p>NU agrees with the finding and will reimburse NSF in the amount of \$33,088.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	February 2022 – June 2023 Unsupported Subaward Expenses	12,390	<p>NU agrees with this finding and will reimburse NSF in the amount of \$12,390.</p> <p>NU will develop a subrecipient support toolkit, an openly available website as a resource for all subrecipients.</p>

		July 2022 Inadequately Supported Salary Expense	31,261	<p>NU agrees with the finding and will reimburse NSF in the amount of \$31,261.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
		July 2021 – February 2022 Inadequately Supported Consultant Expense	9,598	<p>NU agrees with the finding and will reimburse NSF in the amount of \$9,598.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
		July 2021 – February 2022 Inadequately Supported Travel Expense	4,675	<p>NU agrees with the finding and will reimburse NSF in the amount of \$4,675.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

### Finding 3: Indirect Cost Rates Not Appropriately Applied

NSF Award	Organization	Description	Total	NU Response
		September 2019 to August 2023 Subaward Expenses Exceeding 25K Included in MTDC Base	2,812	<p>NU disagrees with this finding.</p> <p>incurred costs on their GL, however the amount in question was not included in any invoices submitted to NU and it was not drawn in ACM\$.</p>

■■■■■	■■■■■	January 2020 to December 2021 Indirect Cost Rate Not Applied to Appropriate MTDC Base	5,485	<p>NU agrees with the finding and will reimburse NSF in the amount of \$5,485.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	April 2021 to July 2021 Salary, Consultant, and Materials and Supplies Excluded from MTDC base	0	<p>NU agrees with this finding and no further action required as there were no additional dollars invoiced and NU did not draw any funds related to this.</p>
■■■■■	■■■■■	August 2021 to November 2021 Duplicate Indirect Cost	568	<p>NU agrees with the finding and will reimburse NSF in the amount of \$568.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
■■■■■	■■■■■	August 2021 to June 2023 Salary Expenses Excluded from MTDC Base	0	<p>NU agrees with this finding and no further action required as there were no additional dollars invoiced and NU did not draw any funds related to this.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>



		August 2021 to June 2023 Fringe Benefits, Travel, and Materials and Supplies Excluded from MTDC Base	0	<p>NU agrees with this finding and no further action required as there were no additional dollars invoiced and NU did not draw any funds related to this.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
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#### Finding 4: Inappropriately Allocated Salary Expense

NSF Award	Organization	Description	Total	NU Response
		October 2021 Inappropriately Allocated Salary	0	<p>NU agrees with this finding and no further action required as there were no additional dollars invoiced and NU did not draw any funds related to this.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

#### Finding 5: Fringe Benefit Rates Not Appropriately Applied

NSF Award	Organization	Description	Total	NU Response
		November 2021 to April 2023 Fringe Benefit Rates Not Appropriately Applied	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website.</p>



████	████	May 2022 Fringe Benefit Rate Not Appropriately Applied	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website.</p>
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#### Finding 6: Non-Compliance with Federal Financial Management Requirements

NSF Award	Organization	Description	Total	NU Response
████	████	No policies or procedures for determining the allowability of sampled costs	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
████	████	No transaction-level data from a financial accounting information system to support costs claimed	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
████	████	No transaction-level data from a financial accounting information system to support costs claimed	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

		No policies or procedures for determining the allowability of sampled costs	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking expenditures.</p>
		No transaction-level data from a financial accounting information system to support costs claimed	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

#### Finding 7: Non-Compliance with Institutional Policies

NSF Award	Organization	Description	Total	NU Response
		Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy	0	<p>NU agrees with this finding.</p> <p>Policies and procedures are being reviewed and will be aligned to ensure compliance is met with regard to institutional policies.</p>
		Non-Compliance with Standard Operating Procedures – Invoice Approval & Processing Policy	0	<p>NU agrees with the finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

		Non-Compliance with Effort Reporting Policy	0	<p>NU disagrees with this finding.</p> <p>It is reasonable for the prime to rely on the subrecipient, especially when the subrecipient is subject to a single audit, that the subrecipient is appropriately tracking institutional base salaries.</p>
		Non-Compliance with Travel and Expense Policy	0	<p>NU agrees with the finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>
		Non-Compliance with Standard Operating Procedures - Payroll, Time Sheet Preparation & Approval Policy	0	<p>NU agrees with the finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website. In addition, Northeastern will continue to promote the use of fixed price subawards when it is appropriate for a scope of work and approved by the federal funding agency, for foreign and high-risk entities. The use of fixed price subawards will help Northeastern to assess key costing data, including salaries and labor costs, at the time of subaward issuance.</p>

#### Finding 8: Non-Compliance with Subaward Terms and Conditions

NSF Award	Organization	Description	Total	NU Response
		Non-Compliance with Subaward Invoice Requirements	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website.</p>
		Non-Compliance with Subaward Invoice Requirements	0	<p>NU agrees with this finding.</p> <p>Northeastern will develop a subrecipient support toolkit, an openly available website.</p>

ALL	ALL	Non-Compliance with Subaward Reporting Requirements	0	<p>NU disagrees with this finding.</p> <p>Regulations and guidance related to subrecipient progress reports do not dictate the form or format of those deliverables. The contract does not require the deliverable to be a written progress report, only for a progress report to be delivered to Northeastern. In many cases, these progress reports came in verbal communications and were included in the final report to the funding agency. In all cases, the deliverable was provided in a manner satisfactory to the Northeastern PI. Therefore, we dispute all the findings.</p>
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## **APPENDIX B: OBJECTIVES, SCOPE, AND METHODOLOGY**

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## OBJECTIVES

The NSF OIG Office of Inspections, Evaluations & Agile Products (formerly the Office of Audits) engaged Sikich CPA LLC (formerly known as Cotton & Company Assurance and Advisory, LLC, and herein referred to as “we”) to conduct an audit of subaward costs claimed by Northeastern University (Northeastern) during the audit **period of performance (POP)**, which included the inception of each NSF award through August 31, 2023. The objectives of the audit were to (1) determine whether subawardee expenses that Northeastern claimed were supported, allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and relevant NSF and federal requirements, and (2) evaluate Northeastern’s compliance with federal and NSF requirements for pass-through entities, as well as its institutional policies.

## SCOPE

The audit population included approximately \$12,086,038 in subaward costs that Northeastern claimed in NSF’s Award Cash Management Service (ACM\$) on the 20<sup>50</sup> in-scope NSF awards during the period from each award’s inception date through August 31, 2023, as illustrated in Table 30.

**Table 30: Summary of Subaward Costs Northeastern Claimed**

NSF Award No.	Subaward Expenses
	\$96,318
	150,016
	5,000
	107,964
	158,117
	7,066,338
	112,792
	29,208
	491,509
	125,998
	8,000
	50,410
	721,410
	54,917
	21,474
	17,013
	2,802,007
	51,796
	8,177

<sup>50</sup> Although 28 NSF awards were included in the audit scope, based on the general ledger (GL) data provided, Northeastern only claimed costs for subaward expenses on 20 of these awards.

NSF Award No.	Subaward Expenses
	7,574
<b>Total</b>	<b><u>\$12,086,038</u></b>

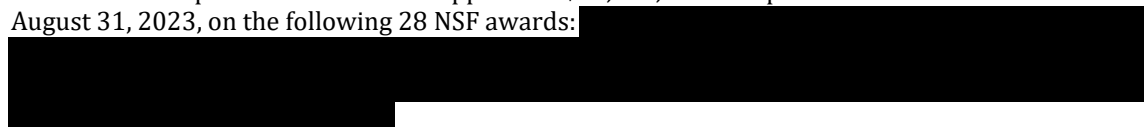
*Source: Auditor analysis of accounting data that Northeastern provided using financial information to support costs claimed on NSF awards during the audit period.*

## METHODOLOGY

Based on the objectives and scope of the audit, we conducted this engagement by completing the following steps:

- Assessing the reliability of the general ledger (GL) data Northeastern provided by comparing the costs charged to NSF awards per Northeastern’s 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 Northeastern and NSF OIG. NSF OIG provided award data that Northeastern reported through ACM\$ during our audit period.
    - We assessed the reliability of the GL data that Northeastern provided by: (1) comparing the total costs Northeastern charged to the 28 NSF awards identified in the original audit scope<sup>51</sup> per Northeastern’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that Northeastern submitted to NSF for each of the awards before August 31, 2023, and (2) reviewing the parameters that Northeastern used to extract transaction data from its accounting systems. We found Northeastern’s computer-processed data to be sufficiently reliable for the purposes of the audit. We did not identify any exceptions with the parameters Northeastern 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 (FY) 2023 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.

<sup>51</sup> Northeastern provided GL data to support the \$23,077,781 in expenditures it had claimed in ACM\$ as of August 31, 2023, on the following 28 NSF awards:





- Northeastern provided detailed transaction-level data to support \$12,086,038 in incurred subaward costs charged to NSF awards during the audit period. This data resulted in a total audit universe of \$12,086,038 in expenses claimed on 20 NSF awards.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information Northeastern and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, and Northeastern-specific policies and procedures surrounding subaward costs budgeted for or charged to NSF awards and identifying the controls in place to ensure that subaward costs charged to sponsored projects were reasonable, allocable, and allowable.
  - In planning and performing this audit, we considered Northeastern’s internal controls within the audit’s scope solely to understand the directives or policies and procedures that Northeastern has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, and Northeastern policies.
- Providing Northeastern with a list of 25 subaward transactions selected from its GL data and 68 transactions selected from the subawardees’ GL data sets and requesting that Northeastern and the subawardees provide documentation to support each transaction.
- Reviewing the supporting documentation that Northeastern and the subawardees 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,<sup>52</sup> NSF,<sup>53</sup> Northeastern,<sup>54</sup> and subawardee policies.<sup>55</sup>
- Holding virtual interviews and walkthroughs with Northeastern in January 2024 to discuss subawards; specifically, how Northeastern assesses risk and monitors and approves subawards and subawardee invoices.

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<sup>52</sup> We assessed Northeastern’s compliance with 2 Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

<sup>53</sup> We assessed Northeastern’s compliance with NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 19-1, 20-1, 22-1, and 23-1; NSF award terms and conditions; and Northeastern’s and its subawardees’ policies and procedures, as appropriate.

<sup>54</sup> We assessed Northeastern’s compliance with its own internal policies and procedures surrounding subaward costs budgeted for or charged to NSF awards.

<sup>55</sup> We assessed each subawardee’s compliance with its own internal policies and procedures surrounding subaward costs budgeted for or charged to NSF awards.

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 Northeastern personnel to ensure Northeastern 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), as 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**

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

Finding	Description	Questioned Costs		Total
		<i>Unsupported</i>	<i>Unallowable</i>	
1	Unallowable Expenses	\$0	\$936,125	\$936,125
2	Inadequately Supported Expenses	50,153	53,939	104,092
3	Indirect Cost Rates Not Appropriately Applied	-	8,865	8,865
4	Inappropriately Allocated Salary Expense	-	-	-
5	Fringe Benefit Rates Not Appropriately Applied	-	-	-
6	Non-Compliance with Federal Financial Management Requirements	-	-	-
7	Non-Compliance with Institutional Policies	-	-	-
8	Non-Compliance with Subaward Terms and Conditions	-	-	-
<b>Total</b>		<b><u>\$50,153</u></b>	<b><u>\$998,929</u></b>	<b><u>\$1,049,082</u></b>

*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 Transaction Exceptions	Questioned Direct Costs	Questioned Indirect Costs	Questioned Total	Northeastern Agreed to Reimburse
	1	\$0	\$0	\$0	\$0
	4	5,000	-	5,000	5,000
	6	93,793	11,556	105,349	105,349
	5	409	205	614	-
	5	791,820	11,065	802,885	403,142
	6	1,740	241	1,981	-
	1	-	-	-	-
	1	-	-	-	-
	2	3,735	1,778	5,513	-
	26	101,175	12,847	114,022	90,814
	3	-	-	-	-
	4	5,612	8,106	13,718	12,390
	3	-	-	-	-
	1	-	-	-	-
	1	-	-	-	-
	1	-	-	-	-
<b>Total</b>	<b><u>70</u></b>	<b><u>\$1,003,284</u></b>	<b><u>\$45,798</u></b>	<b><u>\$1,049,082</u></b>	<b><u>\$616,695</u></b>

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.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
1) Unallowable Expenses	██████	Northeastern	June 2020 Unallowable Subaward Payment	\$403,142	\$0	\$403,142	\$403,142
	██████	████	February 2020 to April 2023 Unapproved Subaward	388,678	8,253	396,931	-
	██████	██████	November 2019 to December 2021 Unallowable Salary	57,375	5,738	63,113	63,113
	██████	██████	November 2019 to December 2021 Unallowable Salary	3,330	333	3,663	3,663
	██████	██████	August 2021 to March 2022 Unallowable Salary and Fringe Benefits	2,208	221	2,429	2,429
	██████	██████	August 2021 to April 2023 Unallowable Salary	37,850	-	37,850	37,850
	██████	████	December 2021 to April 2022 Unallowable Salary	15,681	7,527	23,208	-
	██████	██████	May 2022 Unallowable Salary	409	205	614	-
	██████	██████	July 2022 to August 2022 Unallowable Salary	501	241	742	-
	██████	██████████	May 2023 Overpaid Invoice	3,000	-	3,000	3,000

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
	██████	████	June 2022 Unallowable Airfare Class	1,042	391	1,433	1,433
2) Inadequately Supported Expenses	██████	██	August 2020, October 2020, and February 2023 Unsupported Subaward Expenses	-	-	-	-
	██████	██████	September 2020 – March 2022 Unsupported Subaward Expenses	33,088	-	33,088	33,088
	██████	████	February 2022 – June 2023 Unsupported Subaward Expenses	4,284	8,106	12,390	12,390
	██████	████	March to August 2021 Inadequately Supported Salary Expense	5,000	-	5,000	5,000
	██████	██████	December 2021 and June 2022 Inadequately Supported Salary Expenses	1,328	-	1,328	-
	██████	██████	July 2022 Inadequately Supported Salary Expense	28,419	2,842	31,261	31,261
	██████	██████	July 2022 Inadequately Supported Salary Expense	3,735	1,778	5,513	-
	██████	██	February - April 2021 Inadequately Supported Consultant Expense	1,000	-	1,000	-
	██████	██████	July 2021 – February 2022 Inadequately Supported Consultant Expense	8,725	873	9,598	9,598
	██████	██████	July 2021 – February 2022 Unsupported Travel Expense	4,250	425	4,675	4,675

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
	██████	█	March 2021 Inadequately Supported Materials and Supplies	239	-	239	-
3) Indirect Cost Rates Not Appropriately Applied	██████	█	September 2019 to August 2023 Subaward Expenses Exceeding 25K Included in MTDC Base	-	2,812	2,812	-
	██████	██████	January 2020 to December 2021 Indirect Cost Rate Not Applied to Appropriate MTDC Base	-	5,485	5,485	5,485
	██████	█	April 2021 to July 2021 Salary, Consultant, and Materials and Supplies Excluded from MTDC base	-	-	-	-
	██████	██████	August 2021 to November 2021 Duplicate Indirect Costs	-	568	568	568
	██████	██████	August 2021 to June 2023 Salary Expenses Excluded from MTDC Base	-	-	-	-
	██████	██████	August 2021 to June 2023 Fringe Benefits, Travel, and Materials and Supplies Excluded from MTDC Base	-	-	-	-
4) Inappropriately Allocated Salary Expense	██████	██████	October 2021 Inappropriately Allocated Salary	-	-	-	-



Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
5) Fringe Benefit Rates Not Appropriately Applied	██████	██████	November 2021 to April 2023 Fringe Benefit Rates Not Appropriately Applied	-	-	-	-
	██████	██████	May 2022 Fringe Benefit Rate Not Appropriately Applied	-	-	-	-
6) Non-Compliance with Federal Financial Management Requirements	██████	██████	No policies or procedures for determining the allowability of sampled costs	-	-	-	-
	██████	██████	No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
			No policies or procedures for determining the allowability of sampled costs	-	-	-	-
	██████	██████	No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
	██████	██████	No policies or procedures for determining the allowability of sampled costs	-	-	-	-
	██████	██████	No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
	██████	██████	No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
7) Non-Compliance with Institutional Policies	██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy	-	-	-	-
	██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy	-	-	-	-
	██████	N/A	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy	-	-	-	-
	██████	██████	Non-Compliance with Standard Operating Procedures – Invoice Approval & Processing Policy	-	-	-	-
	██████	██████	Non-Compliance with Effort Reporting Policy	-	-	-	-
	██████	██████	Non-Compliance with Travel and Expense Policy	-	-	-	-
	██████	██████	Non-Compliance with Standard Operating Procedures - Payroll, Time Sheet Preparation & Approval Policy	-	-	-	-

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
8) Non-Compliance with Subaward Terms and Conditions	██████	██████	Non-Compliance with Subaward Invoice Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Invoice Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
	██████	██	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██	Non-Compliance with Subaward Reporting Requirements	-	-	-	-

Finding No.	NSF Award No.	Subawardee	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
<b>Total</b>				<b><u>\$1,003,284</u></b>	<b><u>\$45,798</u></b>	<b><u>\$1,049,082</u></b>	<b><u>\$616,695</u></b>

Source: Auditor summary of identified exceptions by finding.

**Appendix C, Table 4: Summary of Questioned Costs by Subawardee, Award Number, and Expense Description**

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
████	████	Non-Compliance with Subaward Reporting Requirements	\$0	\$0	\$0	\$0
████	████	August 2021 to March 2022 Unallowable Salary and Fringe Benefits	2,208	221	2,429	2,429
		October 2021 Inappropriately Allocated Salary	-	-	-	-
		August 2021 to November 2021 Duplicate Indirect Cost	-	568	568	568
		No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
		Non-Compliance with Travel and Expense Policy	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
████	████	December 2021 to April 2022 Unallowable Salary	15,681	7,527	23,208	-

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
██████	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
██████	██████	May 2022 Unallowable Salary	409	205	614	-
	██████	November 2021 to April 2023 Fringe Benefit Rates Not Appropriately Applied	-	-	-	-
	██████	May 2022 Fringe Benefit Rate Not Appropriately Applied	-	-	-	-
	██████	Non-Compliance with Effort Reporting Policy	-	-	-	-
	██████	Non-Compliance with Subaward Invoice Requirements	-	-	-	-
	██████	Non-Compliance with Subaward Invoice Requirements	-	-	-	-
	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
	██████	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	██████	February - April 2021 Inadequately Supported Consultant Expense	1,000	-	1,000	-
		March 2021 Inadequately Supported Materials and Supplies	239	-	239	-
		April 2021 to July 2021 Salary, Consultant, and Materials and Supplies Excluded from MTDC base	-	-	-	-

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		November 2019 to December 2021 Unallowable Salaries	57,375	5,738	63,113	63,113
		November 2019 to December 2021 Unallowable Salary	3,330	333	3,663	3,663
		September 2020 – March 2022 Unsupported Subaward Expenses	33,088	-	33,088	33,088
		January 2020 to December 2021 Indirect Cost Rate Not Applied to Appropriate MTDC Base	-	5,485	5,485	5,485
		No policies or procedures for determining the allowability of sampled costs	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		March to August 2021 Inadequately Supported Salary Expense	5,000	-	5,000	5,000
		No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		August 2021 to April 2023 Unallowable Salary	37,850	-	37,850	37,850
		June 2022 Unallowable Airfare Class	1,042	391	1,433	1,433
		August 2021 to June 2023 Salary Expenses Excluded from MTDC Base	-	-	-	-



Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		July 2022 Inadequately Supported Salary Expense	28,419	2,842	31,261	31,261
		July 2021 – February 2022 Inadequately Supported Consultant Expense	8,725	873	9,598	9,598
		July 2021 – February 2022 Unsupported Travel Expense	4,250	425	4,675	4,675
		August 2021 to June 2023 Fringe Benefits, Travel, and Materials and Supplies Excluded from MTDC Base	-	-	-	-
		No transaction-level data from a financial accounting information system to support costs claimed	-	-	-	-
		Non-Compliance with Standard Operating Procedures – Invoice Approval & Processing Policy	-	-	-	-
		Non-Compliance with Standard Operating Procedures - Payroll, Time Sheet Preparation & Approval Policy	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		No policies or procedures for determining the allowability of sampled costs	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		February 2022 – June 2023 Unsupported Subaward Expenses	4,284	8,106	12,390	12,390

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
		December 2021 and June 2022 Inadequately Supported Salary Expenses	1,328	-	1,328	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		February 2020 to April 2023 Unapproved Subaward	388,678	8,253	396,931	-
		August 2020, October 2020, and February 2023 Unsupported Subaward Expenses	-	-	-	-
		September 2019 to August 2023 Subaward Expenses Exceeding 25K Included in MTDC Base	-	2,812	2,812	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		July 2022 to August 2022 Unallowable Salary	501	241	742	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
		July 2022 Inadequately Supported Salary Expense	3,735	1,778	5,513	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
Total			\$597,142	\$45,798	\$642,940	\$210,553

Source: Auditor summary of identified exceptions for subawardees.

Appendix C, Table 5: Summary of Northeastern Questioned Costs

NSF Award No.	Description	Direct	Indirect	Total	Northeastern Agreed to Reimburse
██████	June 2020 Inappropriately Allocated Subaward Payment	\$403,142	\$0	\$403,142	\$403,142
██████	May 2023 Overpaid Invoice	3,000	-	3,000	3,000
	Non-Compliance with Subrecipient Risk Assessment and Monitoring Policy	-	-	-	-
	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
<b>Total</b>		<u><b>\$406,142</b></u>	<u><b>\$-</b></u>	<u><b>\$406,142</b></u>	<u><b>\$406,142</b></u>

Source: Auditor summary of identified exceptions for Northeastern.

## **APPENDIX D: SUMMARY OF RECOMMENDATIONS**

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

- 1.1. Resolve the \$421,495 in questioned subaward and salary expenses for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2. Direct Northeastern to provide documentation supporting that it has repaid or otherwise credited the \$514,630 in questioned subaward, salary, and travel expenses for which it has agreed to reimburse NSF.
- 1.3. Direct Northeastern to strengthen its procedures and internal controls around invoice processing to ensure that it allocates subaward payments to the correct award.
- 1.4. Direct Northeastern to strengthen its internal controls and processes for obtaining NSF approval for subawards. This could include:
  - Requiring Sponsored Projects Administration to verify whether the entity explicitly identified all subawards within the approved award budget or obtained written approval from the NSF Grants Officer before establishing the subaward.
  - Requiring periodic training for Principal Investigators and other personnel responsible for identifying subaward agreements under NSF awards.
- 1.5. Direct Northeastern to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure that subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include:
  - Implementing additional procedures that require Northeastern to verify that subawardees submit invoices based on actual expenses incurred, rather than on the award budget.
  - Developing additional resources for subawardees that provide guidance for charging allowable expenses—including salary, fringe benefit, and travel expenses—consistent with federal and NSF regulations.
- 1.6. Direct Northeastern to strengthen its policies, procedures, and internal controls for processing subaward invoices to ensure it only pays subawardees for the reimbursement amount requested.
- 2.1. Resolve the \$8,080 in questioned inadequately supported salary, consultant, and material and supply expenses for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.

- 2.2. Direct Northeastern to provide documentation supporting that it has repaid or otherwise credited the \$96,012 in questioned subaward, salary, consultant, and travel costs for which it has agreed to reimburse NSF.
- 2.3. Direct Northeastern to implement additional procedures that require it—or its subawardees—to perform periodic reconciliations to ensure expenses paid to its subawardees are supported by the subawardees' financial records.
- 2.4. Direct Northeastern to develop additional resources for subawardees that provide guidance regarding the types of documentation subawardees are required to create and retain to support salary, consultant, travel, and materials and supplies expenses charged to NSF awards.
- 3.1. Resolve the \$2,812 in questioned indirect costs for which Northeastern has not agreed to reimburse NSF and direct Northeastern to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 3.2. Direct Northeastern to provide the documentation supporting that it has repaid or otherwise credited the \$6,053 in questioned indirect costs for which it has agreed to reimburse NSF.
- 3.3. Direct Northeastern to strengthen its policies, procedures, and internal control processes for ensuring its subawardees appropriately apply either their federally negotiated indirect cost rates or the de minimis rate to NSF awards. These updated procedures could include:
  - Requiring personnel responsible for approving invoices to perform a calculation to determine whether the indirect costs invoiced are appropriate based on the direct costs invoiced and the rate identified in the subawardee's Negotiated Indirect Cost Rate Agreement (or the de minimis rate when the subawardee does not have a federally negotiated rate).
  - Developing resources that provide guidance on appropriately applying indirect cost rates to all direct costs that should be included in the Modified Total Direct Cost base, per the subawardee's negotiated indirect cost rate agreements and federal regulations.
  - Developing resources that provide guidance on accurately classifying all costs for accounts included within the Modified Total Direct Cost base and on applying the indirect cost rate to those accounts.
- 4.1 Direct Northeastern to develop additional resources for subawardees that provide guidance regarding how to calculate salary expenses and allocate the expenses consistent with the benefits received by the award charged.

- 5.1. Direct Northeastern to strengthen its subaward monitoring procedures to ensure it verifies that its subawardees either apply the appropriate fringe benefit rates included in their negotiated agreements or document their election to use the proposed fringe benefit rates. These procedures should address how Northeastern will ensure the subawardee's decision to use proposed fringe benefit rates will not cause the subawardee to overcharge NSF for fringe benefits in cases where fringe benefit rates decrease between the date the subaward is proposed and the date the subaward is awarded.
- 6.1. Direct Northeastern to develop resources that provide its subawardees with guidance on the types of financial accounting system records, policies, and procedures necessary to demonstrate compliance with federal financial management systems requirements.
- 7.1. Direct Northeastern to implement internal controls to ensure that Principal Investigators review and approve invoices—and document this approval—within the time limit defined in its policy.
- 7.2. Direct Northeastern to implement internal controls to ensure that its subawardees are in compliance with their own policies prior to incurring expenses they will charge to the subaward.
- 8.1. Direct Northeastern to update its invoice review procedures to ensure that subawardee invoices include all of the data elements required per the subaward terms and conditions.
- 8.2. Direct Northeastern to implement additional policies or procedures to ensure that subawardees complete and submit any progress, technical, or other reports that Northeastern requires per the subaward terms and conditions.

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

- Directing Northeastern to develop resources for subawardees that provide guidance on recording indirect costs and fringe benefit adjustments within their financial accounting systems or implementing other controls to ensure indirect costs are supported and reconcile to expenses claimed.

## **APPENDIX E: GLOSSARY**

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**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: costs must meet the following general criteria in order to be allowable under Federal awards: (a) Be necessary and reasonable (b) Conform to any limitations or exclusions set forth in these principles or in the Federal award (c) Be consistent with policies and procedures (d) Be accorded consistent treatment (e) Be determined in accordance with generally accepted accounting principles (f) Not be included as a cost or used to meet cost sharing or matching requirements of any other federally-financed program (g) Be adequately documented. (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.](#)

**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.** 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 the 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 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 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 in the case of colleges and universities. (NSF Office of Budget, Finance, and Award Management).

[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 22-1).

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

**Questioned Cost.** A cost that is questioned by the auditors because of an alleged violation of a provision of a law, regulation, contract, grant, cooperative agreement, or other agreement or document governing the expenditure of funds; a finding that, at the time of the audit, such cost is not supported by adequate document; or a finding that the expenditure of funds for the intended purpose is unnecessary or unreasonable. (2 CFR 200.84).

[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. (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.](#)

# National Defense Authorization Act

## General Notification

Pursuant to Pub. L. No. 117-263 § 5274, business entities and non-governmental organizations specifically identified in this report have 30 days from the date of report publication to review this report and submit a written response to NSF OIG that clarifies or provides additional context for each instance within the report in which the business entity or non-governmental organizations is specifically identified. Responses that conform to the requirements set forth in the statute will be attached to the final, published report.

If you find your business entity or non-governmental organization was specifically identified in this report and wish to submit comments under the above-referenced statute, please send your response within 30 days of the publication date of this report to [OIGPL117-263@nsf.gov](mailto:OIGPL117-263@nsf.gov), no later than March 13, 2025. We request that comments be in .pdf format, be free from any proprietary or otherwise sensitive information, and not exceed two pages. Please note, a response that does not satisfy the purpose set forth by the statute will not be attached to the final report.

## About Us

NSF OIG was established in 1989, in compliance with the *Inspector General Act of 1978* (5 USC 401-24). Our mission is to provide independent oversight of NSF to improve the effectiveness, efficiency, and economy of its programs and operations and to prevent and detect fraud, waste, and abuse.

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