

Performance Audit of Subaward Costs – Columbia University

REPORT PREPARED BY SIKICH CPA LLC





At a Glance

Performance Audit of Subaward Costs – Columbia University
OIG 25-01-004 | February 4, 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 Columbia University (Columbia) incurred on 31 NSF awards from the inception of each award through August 31, 2023. The auditors tested more than \$1 million of the approximately \$24 million of costs claimed during the period. The objectives of the audit were to determine if subrecipient costs claimed by Columbia 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 Columbia's compliance with certain federal and NSF award requirements, NSF award terms and conditions, and Columbia policies. The auditors questioned \$661,353 of costs claimed by Columbia during the audit period. Specifically, the auditors found \$437,025 of inadequately supported expenses, \$214,887 in unallowable expenses, and \$9,441 in indirect cost rates not appropriately applied. The auditors also identified four compliance related findings for which there were no questioned costs: fringe benefit rates not appropriately applied, non-compliance with federal regulations, non-compliance with subaward terms and conditions, and non-compliance with Columbia's Sponsored Project Subaward policy. In addition to the seven findings, the audit report includes two areas for improvement for Columbia to consider related to indirect costs not recorded in subawardees' financial accounting systems and insufficient controls related to the application of indirect cost rates. 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 seven findings and two areas for improvement in the report with associated recommendations for NSF to resolve the questioned costs and to ensure Columbia strengthens administrative and management controls.

AUDITEE RESPONSE

Columbia generally disagreed with the findings included in the audit report. Columbia'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.



U.S. NATIONAL SCIENCE FOUNDATION
Office of Inspector General

MEMORANDUM

DATE: February 4, 2025

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

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

[REDACTED]

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

SUBJECT: Final Report No. 25-01-004, *Columbia University*

This memorandum transmits the Sikich CPA LLC (Sikich) report for the audit of subaward costs charged by Columbia University (Columbia) to 31 NSF awards from the inception of each award through August 31, 2023. The audit encompassed more than \$1 million of the approximately \$24 million of costs claimed during the period. The objectives of the audit were to determine if subrecipient costs claimed by Columbia 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 Ken Lish at 703-292-7100 or 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 Columbia University (Columbia) needs improved oversight of subaward 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 relevant institutional policies and procedures. Specifically, the audit report includes seven findings, two areas for improvement, and a total of \$661,353 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 that Columbia claimed on NSF awards from the inception of each award through August 31, 2023. The audit objectives included determining whether subawardee expenses that Columbia claimed were supported, allowable, allocable, reasonable, and in compliance with NSF award terms and conditions, as well as applicable NSF and federal requirements. We have attached a full description of the audit’s objective, scope, and methodology as [Appendix B](#).

AUDIT CRITERIA

The audit team assessed Columbia’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 Columbia and its subawardee 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 \$661,353 of direct and indirect costs that Columbia inappropriately claimed during the audit period, including:

- \$437,025 of inadequately supported expenses
- \$214,887 of unallowable expenses
- \$9,441 of indirect cost rates not appropriately applied

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

- Fringe benefit rates not appropriately applied
- Non-compliance with federal regulations
- Non-compliance with subaward terms and conditions
- Non-compliance with Columbia’s Sponsored Project Subaward policy

In addition to the seven findings, the audit report includes two area for improvements for Columbia to consider related to:

- Indirect costs not recorded in subawardees’ financial accounting systems
- Insufficient controls related to the application of indirect cost rates

RECOMMENDATIONS

The audit report includes 23 recommendations and 2 considerations for NSF’s Director of the Division of Institution and Award Support related to resolving the \$661,353 in questioned costs and ensuring Columbia strengthens its award management environment, as summarized in [Appendix D](#).

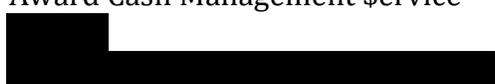
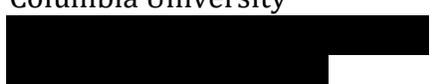
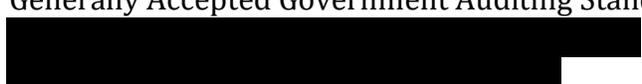
AUDITEE RESPONSE

Columbia generally disagreed with the findings included in the audit report and only agreed to reimburse NSF for \$72,308 of the \$661,353 in questioned costs. Columbia’s response is attached, in its entirety, to the report as [Appendix A](#).

Table of Contents

Background 1
Audit Scope..... 2
Audit Results..... 3
 Finding 1: Inadequately Supported Expenses4
 Finding 2: Unallowable Expenses9
 Finding 3: Indirect Cost Rates Not Appropriately Applied..... 18
 Finding 4: Fringe Benefit Rates Not Appropriately Applied..... 22
 Finding 5: Non-Compliance with Federal Regulations..... 23
 Finding 6: Non-Compliance with Subaward Terms and Conditions..... 28
 Finding 7: Non-Compliance with Columbia’s Sponsored Projects Subawards Policy..... 32
 Area for Improvement: Indirect Costs Not Recorded in Subawardees’ Financial Accounting Information System..... 35
 Area for Improvement: Insufficient Controls Related to the Application of Indirect Cost Rates 36
Appendix A: Columbia University Response 38
Appendix B: Objectives, Scope, and Methodology 46
Appendix C: Summary of Questioned Costs..... 51
Appendix D: Summary of Recommendations 60
Appendix E: Glossary 64

Abbreviations

	
ACM\$	Award Cash Management \$ervice
	
CFR	Code of Federal Regulations
Columbia	Columbia University
	
FY	Fiscal Year
GAGAS	Generally Accepted Government Auditing Standards
	
GL	General Ledger
	
MTDC	Modified Total Direct Cost
	
NICRA	Negotiated Indirect Cost Rate Agreement
NSF	National Science Foundation

OIG

Office of Inspector General

PAPPG

Proposal and Award Policies and Procedures Guide

PI

Principal Investigator

POP

Period of Performance

[Redacted content]

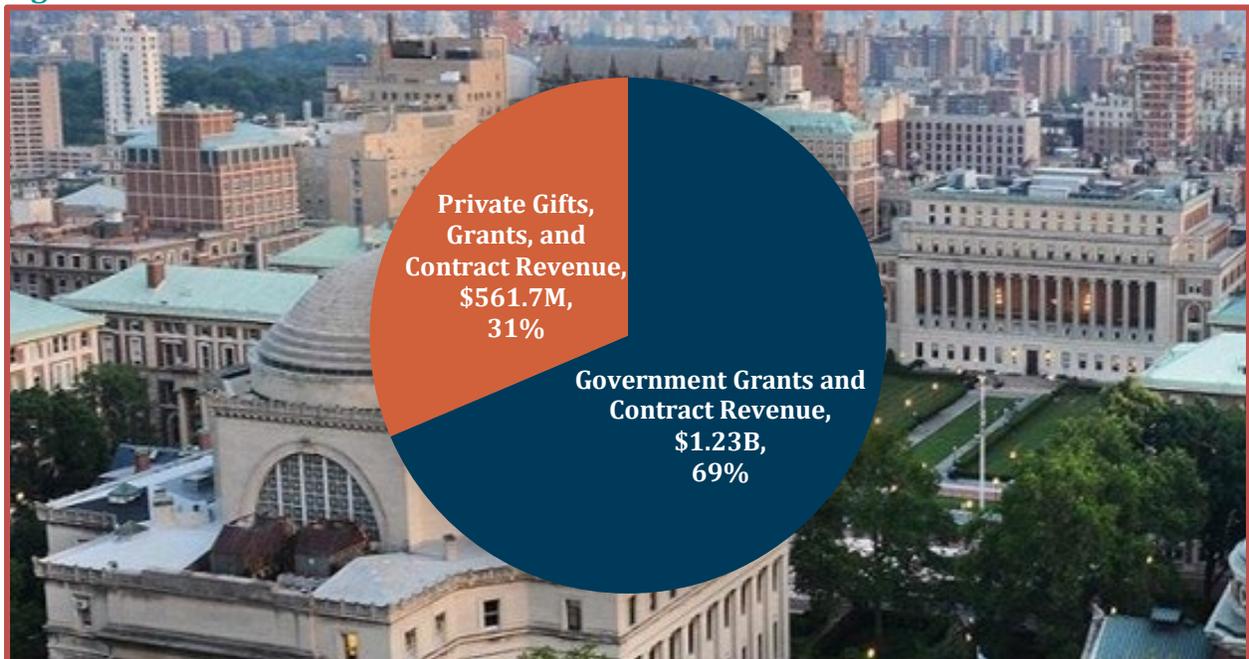
BACKGROUND

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 an audit of **subaward** costs claimed by Columbia University (Columbia). Columbia is a private nonprofit institution of higher education located in New York City. In fiscal year (FY) 2023, Columbia reported \$1.79 billion in government and private gifts, grants, and contract revenue, as illustrated in Figure 1.

Figure 1: Columbia’s FY 2023 Grants and Contracts Revenue



Source: The chart data is supported by Columbia’s FY 2023 Annual Financial Report.

([https://www.finance.columbia.edu/sites/default/files/content/Finance%20Documents/Financial%20Reports/Columbia%20University%20FY23%20Financials%20Signed\[9\].pdf](https://www.finance.columbia.edu/sites/default/files/content/Finance%20Documents/Financial%20Reports/Columbia%20University%20FY23%20Financials%20Signed[9].pdf))

The photo of Columbia’s campus is publicly available on Columbia’s website.

(<https://research.columbia.edu/>)

AUDIT SCOPE

This performance audit—conducted under Order No. 140D0423F0896—was designed to meet the objectives identified in the Objective, 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 (1) to determine whether the subaward expenses that Columbia claimed on its NSF awards were supported, [allowable](#), [allocable](#), [reasonable](#), and in compliance with relevant NSF and federal regulations, and (2) to evaluate Columbia’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.

Columbia provided general ledger (GL) data to support \$24 million in subaward expenses claimed on 31 NSF awards¹ from each award’s inception date through August 31, 2023.

We judgmentally selected a sample of 37 subaward transactions recorded in Columbia’s GL, representing \$726,932² in costs claimed on 37 subawardee invoices. Based on our review of the sampled invoices and Columbia’s GL data, we were able to calculate the total cumulative costs each subawardee invoiced to Columbia. We requested that each of the 37 sampled subawardees provide transaction-level data to support the cumulative costs that Columbia paid to the subawardee and claimed on the sampled NSF awards as of the end of our audit period. We then judgmentally selected 80 transactions, representing \$1,043,872 of the total expenses claimed during the audit period from the GL data provided by the sampled subawardees (see Table 1).³ We requested and evaluated the supporting documentation provided by Columbia 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.

¹ While the audit scope originally included 35 NSF awards with budgeted subawards, because Columbia’s GL supported that it had only charged subaward expenses to 31 of those awards as of August 31, 2023, our audit scope only included subaward expenses charged to 31 NSF awards. For additional details, see [Appendix B, Objectives, Scope, and Methodology](#).

² The \$726,932 amount represents the total value of the 37 transactions selected for transaction-based testing at the prime level (Columbia) and 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.

³ The \$1,043,872 amount represents the total value of the 80 transactions selected for transaction-based testing at the subaward level and 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 ⁴
Salaries and Wages	42	\$414,496
Materials and Supplies	5	250,441
Equipment	7	140,046
Travel	7	104,026
Subaward	1	61,063
Other Direct Costs	8	34,235
Consultant	4	15,236
Participant Support Costs	1	8,320
Tuition	3	8,141
Computer Services	2	7,868
Total	<u>80</u>	<u>\$1,043,872</u>

Source: Auditor summary of selected transactions.

AUDIT RESULTS

We identified and questioned \$661,353 in costs that Columbia charged to 19 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
Inadequately Supported Expenses	\$437,025
Unallowable Expenses	214,887 ⁵
Indirect Cost Rates Not Appropriately Applied	9,441
Fringe Benefit Rates Not Appropriately Applied	-
Non-Compliance with Federal Regulations	-
Non-Compliance with Subaward Terms and Conditions	-
Non-Compliance with Columbia's Sponsored Project Subaward Policy	-
Total	<u>\$661,353</u>

Source: Auditor summary of findings identified.

We made 23 recommendations and identified 2 considerations for NSF's Director of the Division of Institution and Award Support related to resolving the \$661,353 in questioned costs and ensuring Columbia strengthens its administrative and management policies, procedures, and controls for monitoring its subawardees and their use of federal funds. We communicated the audit results and related findings and recommendations to Columbia and NSF OIG. We included Columbia's response to this report, in its entirety, in **Appendix A**.

⁴ 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.

⁵ This includes \$8,837 of overlapping questioned costs, representing expenses questioned in another sub-finding within Finding 2.

FINDING 1: INADEQUATELY SUPPORTED EXPENSES

Columbia did not provide documentation to support the allocability, allowability, and reasonableness of \$437,025 in expenses charged to seven NSF awards during the audit period, as required per federal regulations⁶ and NSF [Proposal & Award Policies & Procedures Guides \(PAPPGs\)](#).⁷

Inadequately Supported Salary Expenses

Columbia and its subawardees did not provide documentation to support \$388,319 in **salary and wage** expenses charged to three NSF awards were charged based on approved employee salary rates and level of effort, as required for the costs to be allowable per federal regulations⁸ and NSF PAPPGs,⁹ as illustrated in Table 3.

Table 3: Inadequately Supported Salary Expenses

Subawardee Expense Date	NSF Award No.	Subawardee	Inadequately Supported Amount	Inadequate Documentation to Support	Notes
December 2019 – August 2023	██████	██████	\$363,890	Project Personnel Salaries	a
April 2021	██████	██████	\$4,500	PI Salary Rate and Time or Level of Effort for the Project	b
May 2023	██████	██████	19,929	Co-PI Time or Level of Effort for the Project	c

Source: Auditor summary of identified exceptions.

- a) Between September 2019 and August 2023, the ██████████ ██████████ charged \$363,890 in inadequately supported salary and wage expenses to NSF Award No. ██████████. Specifically, the documentation that ██████████ provided did not support whether expenses charged were calculated consistent with each employee’s actual rate of pay and the level of effort or actual activity performed by the employees. Further, ██████████ indicated that it budgeted and charged salaries based on average rates for the position level of the individuals performing the work, rather than using the actual pay rate for each individual.

⁶ According to 2 Code of Federal Regulation (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 allocable and reasonable for the performance of the federal award. See [Appendix E](#) of this report for additional **factors affecting allowability of costs**.

⁷ According to NSF PAPPGs 19-1, 20-1, and 23-1, 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.

⁸ According to 2 CFR § 200.430(i) (December 26, 2014; revised November 12, 2020), *Standards for Documentation of Personal 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 which provides reasonable assurance that the charges are accurate, allowable, and properly allocated.

⁹ According to NSF PAPPGs 19-1, 20-1, and 23-1, Part II, Chapter X, Section B.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.

- b) In April 2021, [REDACTED] charged \$4,500 in salary expenses for its Principal Investigator (PI) to NSF Award No. [REDACTED]. However, [REDACTED] did not provide documentation to support the employee’s base salary rate, nor did it provide a timesheet, effort report, or other documentation to support whether the amount charged was consistent with the employee’s actual time and effort dedicated to the subaward.
- c) In May 2023, [REDACTED] charged \$19,929 in salary expenses for its Co-PI to NSF Award No. [REDACTED]. Although [REDACTED] did provide support for the employee’s base salary, it did not provide a timesheet, effort report, or other documentation to support whether the amount charged was consistent with the employee’s actual time and effort dedicated to the subaward.

Unsupported Subawardee Expenses

The financial system data provided by Columbia and its subawardees did not support \$46,645 in expenses charged to four NSF awards, as required for the costs to be allowable per federal regulations¹⁰ and NSF PAPPGs,¹¹ as illustrated in Table 4.

Table 4: Unsupported Subaward Expenses

Expense Date	NSF Award No.	Subawardee	Columbia Paid to Subawardee	Subawardee Data Supports	Unsupported Amount	Notes
December 2020 – February 2023	[REDACTED]	[REDACTED]	\$737,258	\$703,662	\$33,596	a
May 2021 – June 2022	[REDACTED]	[REDACTED]	180,000	178,312	1,688	b
May 2021 – January 2023	[REDACTED]	[REDACTED]	114,449	104,462	10,534	c
October 2022 – August 2023	[REDACTED]	[REDACTED]	90,300	89,473	827	d

Source: Auditor summary of identified exceptions.

- a) Between December 2020 and February 2023, Columbia charged NSF Award No. [REDACTED] for \$737,258 in expenses invoiced by [REDACTED] however, [REDACTED] GL data only supported \$703,662 in expenses. As a result, [REDACTED] invoiced \$33,596 in unsupported expenses.
- b) Between May 2021 and June 2022, Columbia charged NSF Award No. [REDACTED] for \$180,000 in subaward expenses invoiced by [REDACTED] however, [REDACTED] GL data only supported \$178,312 in expenses. As a result, [REDACTED] invoiced \$1,688 in unsupported expenses.

¹⁰ According to 2 CFR § 200.302 (December 26, 2014; 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.

¹¹ According to NSF 19-1, 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.

- c) Between May 2021 and January 2023, Columbia charged NSF Award No. [REDACTED] for \$114,996 in subaward expenses invoiced by [REDACTED]; however, [REDACTED] GL data only supported \$104,462 in expenses. As a result, [REDACTED] invoiced \$10,534 in unsupported expenses.
- d) Between October 2022 and August 2023, Columbia charged NSF Award No. [REDACTED] for \$90,300 in subaward expenses to the [REDACTED]; however, [REDACTED] GL data only supported \$89,473 in expenses. As a result, [REDACTED] invoiced \$827 in unsupported expenses.

Unsupported Relocation Expense

Columbia and its subawardee did not provide documentation to support \$2,061 in relocation expenses charged to one NSF award represented the employee’s actual or reasonably estimated relocation expenses, as required for the costs to be allowable per federal regulations,¹² as illustrated in Table 5.

Table 5: Unsupported Relocation Expense

Subawardee Expense Date	NSF Award No.	Subawardee	Unsupported Total	Unsupported Expenses Associated With	Notes
August 2021	[REDACTED]	[REDACTED]	\$2,061	Relocation Expense	a

Source: Auditor summary of identified exception.

- a) In August 2021, the [REDACTED] charged \$2,061 in unallowable relocation expenses to NSF Award No. [REDACTED]. Specifically, [REDACTED] did not provide documentation to support the employee’s actual relocation expenses. Further, [REDACTED] inappropriately treated the expenses as salary, and therefore applied its 9.34 percent fringe benefit rate.

Conclusion

Columbia did not have sufficient policies, procedures, or internal controls in place to ensure that it only reimbursed subawardees for the actual amount of expenses incurred. Further, Columbia’s policies, procedures, and internal controls did not always ensure that subawardees retained documentation to support the allowability of salary and relocation expenses charged to NSF awards. We are therefore questioning \$437,025 of inadequately supported expenses charged to seven NSF awards. Columbia agreed to reimburse NSF for \$48,706 of the questioned costs, but disagreed with the remaining \$388,319, as illustrated in Table 6.

¹² According to 2 CFR § 200.464 (December 26, 2014), *Relocation Costs of Employees*, states: “Relocation costs are costs incident to the permanent change of duty assignment (for an indefinite period or for a stated period of not less than 12 months) of an existing employee or upon recruitment of a new employee. Relocation costs are allowable, subject to the limitations described in paragraphs (b), (c), and (d) of this section, provided that...reimbursement does not exceed the employee’s actual (or reasonably estimated) expenses.”

Table 6: Finding 1 Summary: Inadequately Supported Expenses

NSF Award No.	Subawardee	Description	Fiscal Year	Questioned Costs			Columbia Agreed to Reimburse
				Direct	Indirect	Total	
██████	██████	September 2019 to August 2023 Inadequately Supported Salary Expenses	2020 – 2024	\$330,809	\$33,081	\$363,890	\$0
██████	██████	April 2021 Inadequately Supported Salary Expenses	2021	4,500	-	4,500	-
██████	██████	May 2023 Inadequately Supported Salary Expenses	2023	18,117	1,812	19,929	-
██████	██████	December 2020 to February 2023 Unsupported Expenses	2021 – 2023	33,596	-	33,596	33,596
██████	██████	May 2021 to June 2022 Unsupported Expenses	2021 – 2022	1,688	-	1,688	1,688
██████	██████	May 2021 to January 2023 Unsupported Expenses	2021 – 2023	9,460	1,074	10,534	10,534
██████	██████	October 2022 to August 2023 Unsupported Expenses	2023 – 2024	827	-	827	827
██████	██████	August 2021 Unsupported Relocation Expense	2022	1,968	93	2,061	2,061
Total				<u>\$400,965</u>	<u>\$36,060</u>	<u>\$437,025</u>	<u>\$48,706</u>

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 \$388,319 in questioned salary costs and direct Columbia to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$48,706 in questioned unsupported subaward and relocation expenses for which it has agreed to reimburse NSF.

- 1.3 Direct Columbia to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include implementing additional procedures that require Columbia to verify that subawardees maintain adequate documentation to support expenses and submit invoices based on actual expenses incurred and not based on the award budget.
- 1.4 Direct Columbia to implement additional procedures that require it—or its subawardees—to perform periodic reconciliations to ensure that expenses paid to its subawardees are supported by the subawardees’ financial records.
- 1.5 Direct Columbia to develop additional resources that provide guidance to subawardees on the types of documentation they are required to retain in order to support the allowability of salary and relocation expenses charged to NSF awards. These resources should also address ensuring fringe benefit rates are not applied to non-salary expenses.

Columbia University Response: Columbia agreed to reimburse NSF for the \$48,706 in unsupported subawardee and relocation costs, but disagreed with the remaining \$388,319 in inadequately supported salary expenses, as follows:

- With respect to the \$363,890 in inadequately supported [REDACTED] salary costs, Columbia believes the costs should be allowable as [REDACTED] was able to provide the documentation requested to support the sampled salary costs. Specifically, Columbia noted that while [REDACTED] did not provide the documentation requested during audit fieldwork (because it was waiting on government approval to share the requested salary information), it believes [REDACTED] has now provided documentation sufficient to alleviate the entirety of the questioned costs.
- With respect to the \$24,439 in inadequately supported [REDACTED] and [REDACTED] salary costs, Columbia believes the costs should be allowable because they were claimed by small subrecipients who could not provide all of the documentation requested due to time restraints and the level of required effort. Specifically, Columbia stated that, while it agreed the subrecipients’ documentation should be enhanced, because the PI verified the scope of work was completed and because the subrecipients were able to support the employees were reimbursed at the appropriate salary amount, these costs should be allowable.

Auditors’ Additional Comments: Our position regarding this finding has not changed. Despite several months of extensions and accommodations, [REDACTED], [REDACTED], and [REDACTED] were unable to provide adequate documentation to support the \$388,319 in questioned salary expenses, as required per federal regulations.¹³ As we had already provided numerous

¹³ Per 2 CFR § 200.337 (December 26, 2014; revised November 12, 2020), *Access to records*, authorized representatives of a federal agency must have timely and reasonable access to recipient and subrecipient records and personnel pertinent to perform audits.

extensions, we could not continue to delay the audit,¹⁴ and therefore did not review any documentation provided to support costs claimed by these institutions after our fieldwork activities were completed. Accordingly, our position regarding this finding has not changed.

FINDING 2: UNALLOWABLE EXPENSES

Columbia charged eight NSF awards a total of \$214,887 in expenses that were unallowable under federal regulations¹⁵ and NSF PAPPGs.¹⁶

Unapproved Subaward Expenses

Columbia charged NSF Award No. [REDACTED] for expenses paid to three subawardees for subawards that Columbia did not obtain appropriate NSF approval to issue, as was required for the subaward expenses to be allowable per NSF PAPPGs,¹⁷ as illustrated in Table 7.

Table 7: Unapproved Subaward Expenses

Expense Date(s)	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
March 2021 – June 2021	[REDACTED]	[REDACTED]	\$40,500	Unapproved Subaward	a
May 2021 – October 2021	[REDACTED]	[REDACTED]	79,593	Unapproved Subawards	b
July 2022	[REDACTED]	[REDACTED]	40,030	Unapproved Subaward	c

Source: Auditor summary of identified exceptions.

- a) Between March 2021 and June 2021, Columbia charged NSF Award No. [REDACTED] for \$40,500 in costs associated with payments it made to a subawardee, the [REDACTED]. Although the award’s Steering Committee selected [REDACTED] to receive seed funding—which Columbia was responsible for administering under this award, consistent with the NSF program solicitation¹⁸—Columbia did not include the subaward in the approved proposal

¹⁴ Section 9.17 of GAGAS identifies timeliness as an element of report quality. To ensure we met this reporting standard, we ultimately had to set a firm deadline for document delivery. This only occurred after we had approved several months of extensions and other accommodations.

¹⁵ According to 2 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 allocable and reasonable for the performance of the federal award. Further, section (g) states that, in order for a cost to be allowable, it must be adequately documented.

¹⁶ According to NSF PAPPGs 19-1, 20-1, and 23-1, 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.

¹⁷ According to NSF PAPPGs 19-1 and 20-1, Part I, Chapter II, *C. Proposal Contents*, Section 2.g.(vi)(e), *Subawards*, authorization for subawards must be obtained, 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.

¹⁸ NSF Program Solicitation [REDACTED] states that each [REDACTED] must allocate \$250,000 annually for a Seed Fund based on competitive proposals reviewed and approved by an external Steering Committee.

budget, nor did it obtain approval from the NSF Grants Officer to issue the subaward.

- b) Between May 2021 and October 2021, Columbia charged NSF Award No. [REDACTED] for \$79,593 in costs associated with payments it made to a subawardee, the [REDACTED]. Although the award’s Steering Committee selected [REDACTED] to receive two subawards—including one for seed funding, which Columbia was responsible for administering under this award—Columbia did not include the subawards in the approved proposal budget, nor did it obtain approval from the NSF Grants Officer to issue the subaward.
- c) In July 2022, Columbia charged NSF Award No. [REDACTED] for \$40,030 in subaward costs associated with payments made to a subawardee, [REDACTED]. Although the award’s Steering Committed selected [REDACTED] to receive seed funding—which Columbia was responsible for administering under this award, consistent with the NSF program solicitation—Columbia did not include the subaward in the approved proposal budget, nor did it obtain approval from the NSF Grants Officer to issue the subaward.

Unallowable Fringe Benefit Expenses

Columbia charged three NSF awards for \$43,954 in fringe benefit expenses claimed by subawardees that were not allowable per federal regulations¹⁹ and NSF PAPPGs,²⁰ as illustrated in Table 8.

Table 8: Unallowable Fringe Benefit Expenses

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
December 2019 – August 2023	[REDACTED]	[REDACTED]	\$36,389	Budgeted Fringe Benefit Rate	a
December 2019 – December 2020	[REDACTED]	[REDACTED]	7,411	Budgeted Fringe Benefit Rate	b
October 2020	[REDACTED]	[REDACTED]	154	Fringe Benefits Not Appropriately Removed	c

Source: Auditor summary of identified exceptions.

¹⁹ According to 2 CFR § 200.431 (December 26, 2014; revised November 12, 2020), *Compensation – Fringe Benefits*, (a) fringe benefits include, but are not limited to, the costs of leave (i.e., 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, a non-federal entity-employee agreement, or an established policy of the non-federal entity.

²⁰ NSF PAPPGs 19-1, Part I, Chapter II, *C. Proposal Contents*, Section 2.g.(ii), and 23-1, Part I, Chapter II, *D. Proposal Contents*, Section 2.f.(ii), *Fringe Benefits*, states: “If the proposer’s usual accounting practices provide that its contributions to employee benefits...be treated as direct costs, NSF grant funds may be requested to fund fringe benefits as a direct cost. These are typically determined by application of a calculated fringe benefit rate for a particular class of employee applied to the salaries and wages requested. They also may be paid based on actual costs for individual employees if that institutional policy has been approved by the cognizant Federal agency.”

- a) Between September 2019 and August 2023, ██████ charged \$36,389 in unallowable fringe benefit expenses to NSF Award No. ██████ as a result of inappropriately applying an unsupported 10 percent fringe benefit rate to all salary and wage expenses. Specifically, ██████ believed 10 percent to be the maximum allowable fringe rate (similar to the 10 percent de minimis indirect cost rate).²¹ Because ██████ did not charge fringe costs based on actual expenses or by applying an independently approved fringe benefit rate and because many of the fringe benefits ██████ provides to its employees are generally not allowable under federal regulations (e.g., coffee, private travel, parties), we are not able to verify any of these costs are allowable.
- b) Between September 2019 and December 2020, ██████ charged \$7,411 in unallowable fringe benefit expenses to NSF Award No. ██████ by applying a 20 percent budgeted fringe benefit rate, rather than charging the actual fringe benefit costs it incurred, as supported by its financial records.
- c) In October 2020, the ██████ charged a leave payout expense to a subaward that it determined was unallowable. Although ██████ reimbursed Columbia for the unallowable leave payout expense, it did not reverse the \$154 in fringe benefits that it initially charged with the leave payout.

Duplicate Subaward Expenses

Columbia charged one NSF award for \$5,695 in duplicate subaward expenses, as illustrated in Table 9.

Table 9: Duplicate Subaward Expenses

Expense Date	NSF Award No.	Subawardee	Unsupported Amount	Insufficiently Supported Expenses Associated With	Notes
August 2023	██████	██████	\$5,695	Duplicate Subaward Expenses	a

Source: Auditor summary of identified exception.

- a) In August 2023, Columbia charged NSF Award No. ██████ for \$5,695 in subaward expenses invoiced by ██████ that Columbia erroneously charged to the NSF award twice.

²¹ According to 2 CFR § 200.414 (December 26, 2014; revised November 12, 2020), *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.

Unallowable Long-Term Visa Expense

Columbia charged one NSF award for \$3,850 in long-term visa expenses invoiced by a subawardee that were not allowable per federal regulations²² and NSF PAPPGs,²³ as illustrated in Table 10.

Table 10: Unallowable Long-Term Visa Expense

Subawardee Expense Date	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
October 2022	[REDACTED]	[REDACTED]	\$3,850	Long-Term Visa	a

Source: Auditor summary of identified exception.

- a) In October 2022, the [REDACTED] charged \$3,850 in H1B visa expenses for a post-doctoral scholar to NSF Award No. [REDACTED]

Unallowable Travel Expenses

Columbia charged two NSF awards for \$1,265 in **travel** expenses invoiced by two subawardees that were not allowable per federal regulations, NSF PAPPGs, and subawardee policy, as illustrated in Table 11.

Table 11: Unallowable Travel Expenses

Subawardee Expense Date	NSF Award No.	Subawardee	Unallowable Total	Unallowable Expenses Associated With	Notes
June 2022	[REDACTED]	[REDACTED]	\$901	Lodging	a
May 2023	[REDACTED]	[REDACTED]	\$364	Airfare	b

Source: Auditor summary of identified exceptions.

- a) In June 2022, [REDACTED] charged \$901 in lodging expenses claimed at rates that exceeded the federal lodging per diem rate allowable per [REDACTED] policies to NSF Award No. [REDACTED]. In response to inquiries during our audit, [REDACTED] removed the \$901 in lodging claimed from the award in June 2024.²⁴

²² According to 2 CFR § 200.463 (Revised November 12, 2020), *Recruiting Costs*, short-term travel visa costs are generally allowable expenses and may be proposed as a direct cost, as opposed to long-term immigration visas.

²³ NSF PAPPG 20-1, Part II, Chapter XI, *F. International Considerations*, Section 4, *Passports and Visas*, states: "NSF assumes no responsibility for securing passports or visas required by any person because of participation in an NSF-supported project."

²⁴ According to 2 CFR § 200.475 (Revised November 12, 2020), *Travel costs*, (a) *General*, travel costs are expenses for transportation, lodging, subsistence, and related items, which may be charged on an actual cost basis or per diem basis, provided the charges resulting from the used method are in accordance with the non-federal entity's written travel reimbursement policies.

- b) In May 2023, ██████████ charged \$364 in unallowable airline upgrade expenses to NSF Award No. ██████████

Unallowable Stipend Expense

Columbia charged one NSF award for \$8,320 in stipend expenses invoiced by one subawardee that were not allowable per federal regulations and the NSF PAPPG,²⁶ as illustrated in Table 12.

Table 12: Unallowable Stipend Expense

Subawardee Expense Date	NSF Award No.	Subawardee	Unallowable Total	Overlapping Questioned Costs ²⁷	Unallowable Expenses Associated With	Notes
October 2023	██████████	██████████	\$0	\$8,320	Stipends	a

Source: Auditor summary of identified exception.

- a) In October 2023, ██████████ charged \$8,320 in stipend expenses to NSF Award No. ██████████ and included this transaction in the GL data that it provided to support costs claimed through August 2023. ██████████ then provided documentation to support that the expenses were removed in July 2024 after our audit period end date. Because we are already questioning these expenses as part of the questioned costs identified under ***Unsupported Subaward Expenses in Finding 1***, we are not questioning additional costs for purposes of this finding.

Unallowable Salary Expenses

Columbia charged one NSF award for an employee bonus invoiced by one subawardee that was not allowable per federal guidance²⁸ and NSF PAPPG,²⁹ as illustrated in Table 13.

²⁵ 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. Further, NSF PAPPG 20-1, Part I, Chapter II, C. *Proposal Contents*, Section 2.g.(iv), *Travel, (a) General*, states: “Allowance for air travel normally will not exceed the cost of round-trip, economy airfares.”

²⁶ According to NSF PAPPG 20-1, Part II, Chapter X, Section B.1. *Compensation – Personal Services*, compensation paid to employees during the grant period is allowable in accordance with 2 CFR §200.430. 2 CFR §200.430 (Revised November 12, 2020), *Compensation – personal services, (i) Standards for Documentation of Personnel Expenses*, states that charges to federal awards for salaries and wages must be based on records that accurately reflect the work performed and are supported by a system of internal control that provides reasonable assurance that the charges are accurate, allowable, and properly allocated.

²⁷ We questioned the unallowable expenses as part of the ***Unsupported Subaward Expenses in Finding 1***.

²⁸ According to 2 CFR § 200.430 (December 26, 2014; revised November 12, 2020), *Compensation – Personal Services, (i)(1)*, charges for salary 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. Budget estimates (i.e., estimates determined before the services are performed) alone do not qualify as support for charges to federal awards.

²⁹ According to NSF PAPPGs 19-1, Part I, Chapter II, C. *Proposal Contents*, and 23-1, Part I, Chapter II, D. *Senior Personal Salaries and Wages Policy*, the effort must be documented in accordance with 2 CFR § 200, Subpart E, including 2 CFR § 200.430(i).

Table 13: Unallowable Salary Expenses

Subawardee Expense Date	NSF Award No.	Subawardee	Unallowable Total	Overlapping Questioned Costs ³⁰	Unallowable Expenses Associated With	Notes
January 2021	████████	████████	\$0	\$517	Employee Bonus	a

Source: Auditor summary of identified exception.

- a) In January 2021, ██████████ charged NSF Award No. ██████████ for \$517 in bonus and associated fringe benefit expenses. Because ██████████ paid the employee’s bonus during a period in which the employee dedicated effort to the NSF subaward, a portion of the bonus was **allocated** to this subaward. However, because the work performed to receive this bonus was not necessary to complete the subaward objectives, and because the bonus would not have been allocated to the NSF subaward if it were paid in a different period, it was not reasonable that ██████████ allocated a portion of the bonus to the subaward.

Conclusion

Columbia did not have sufficient policies, procedures, or internal controls in place to ensure its subawardees only charged allowable costs to NSF awards. Specifically, Columbia’s policies, procedures, and internal controls did not always ensure that: subawardees charged salary and fringe expenses based on actual expenses incurred, rather than budgeted amounts; expenses subawardees invoiced were reasonable and necessary for performance of the awards charged; subawards were appropriately approved by NSF; fringe benefit expenses were appropriately removed from an award when the related salary was removed; travel expenses were calculated using the appropriate per-diem rates; and airfare upgrades, long-term visa expenses, and expenses otherwise identified as unallowable were not charged to NSF awards. We are therefore questioning \$214,887 of unallowable expenses charged to nine NSF awards. Columbia agreed to reimburse NSF for \$14,161 of the questioned costs, but disagreed with the remaining \$200,726, as illustrated in Table 14.

Table 14: Finding 2 Summary: Unallowable Expenses

NSF Award No.	Subawardee	Description	Fiscal Year(s)	Questioned Costs			Columbia Agreed to Reimburse
				Direct	Indirect	Total	
████████	████████	March 2021 to June 2021 Unapproved Subaward	2021	\$25,000	\$15,500	\$40,500	\$517 ³¹

³⁰ We questioned the unallowable expenses as part of the **Unapproved Subaward Expenses in Finding 2**.

³¹ Columbia agreed to reimburse NSF for the \$517 in unallowable bonus expenses identified in the **Unallowable Stipend Expense** exception for the ██████████ subaward in Finding 2.

NSF Award No.	Subawardee	Description	Fiscal Year(s)	Questioned Costs			Columbia Agreed to Reimburse
				Direct	Indirect	Total	
██████	██████	May 2021 to October 2021 Unapproved Subaward	2021 – 2022	49,131	30,462	79,593	-
██████	██	July 2022 Unapproved Subaward	2022	24,710	15,320	40,030	-
██████	██████	September 2019 to August 2023 Unallowable Fringe Benefits	2020 – 2024	33,081	3,308	36,389	-
██████	██████	September 2019 to December 2020 Unallowable Fringe Benefits	2020 – 2021	6,737	674	7,411	7,411
██████	██	October 2020 Unallowable Fringe Benefits	2021	125	29	154	154
██████	██████	August 2023 Duplicate Subaward Expenses	2024	5,695	-	5,695	5,695
██████	██████	October 2022 Unallowable Long-Term Visa Expense	2023	2,500	1,350	3,850	-
██████	██████	June 2022 Unallowable Lodging Expense	2022	585	316	901	384
██████	██████	May 2023 Unallowable Upgraded Airfare Expense	2023	227	137	364	-
██████	██	October 2023 Unallowable Stipend	2024	-	-	_ ³²	-
██████	██████	January 2021 Unreasonable Bonus Expense	2021	-	-	_ ³³	-
Total				<u>\$147,791</u>	<u>\$67,096</u>	<u>\$214,887</u>	<u>\$14,161</u>

Source: Auditor summary of identified exceptions.

³² The \$8,320 in unallowable stipend expenses are identified as part of the \$10,534 within the *Unsupported Subawardee Expenses* exception for ██████ in Finding 1.

³³ The \$517 in unallowable bonus expenses are identified as part of the \$40,500 questioned costs within the *Unapproved Subaward Expenses* exception for the ██████ subaward in Finding 2.

Recommendations

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

- 2.1 Resolve the \$200,726 in questioned costs and direct Columbia to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$14,161 in questioned unallowable fringe benefit, subaward, and travel expenses for which it has agreed to reimburse NSF.
- 2.3 Direct Columbia to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include developing additional resources for subawardees that provide guidance regarding the allowable charging of expenses—including salary, bonus, fringe benefit, visa, and travel expenses—consistent with federal and NSF regulations.
- 2.4 Direct Columbia to strengthen its internal controls and processes for obtaining NSF approval for subawards. This could include:
 - Requiring Sponsored Projects Administration to verify whether a subaward is explicitly identified within the award budget approved by NSF or written approval is obtained 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.
- 2.5 Direct Columbia to strengthen its procedures and internal controls around invoice processing to ensure duplicate payments are not made to subawardees.

Columbia University Response: Columbia agreed to reimburse NSF for \$14,161 of questioned costs, but disagreed with the remaining \$200,726 in questioned costs, as follows:

- With respect to the \$159,606³⁴ Columbia did not agree to reimburse for the unapproved subawards, Columbia believes these costs should be allowable because the awards were appropriately approved by the award's Seed Fund Steering Committee (SFSC), which vested the authority required to issue these subawards via the NSF Program Solicitation. Specifically, Columbia stated that because the NSF

³⁴ Columbia agreed to reimburse \$517 of the \$160,123 questioned for unapproved subawards based on one of the subrecipients mistakenly charging a subaward \$517 for a bonus and associated fringe benefit expenses, as outlined in the [Unallowable Salary Expenses](#) finding.

Program Solicitation applicable to this award, NSF [REDACTED],³⁵ states the SFSC is responsible for developing the processes for allocating Seed Funds, and because each of these Seed Fund recipients was approved by the SFSC per its established procedures before Columbia, as the prime awardee, established these subawards, each of these subawards was appropriately approved. Further, Columbia noted that these Seed Fund sites were disclosed to NSF consistently in the approved annual progress reports and that at no time was an objection raised to the inclusion of these subawardees or to the processes established by the SFSC.

- With respect to the \$36,389 in questioned [REDACTED] fringe benefit costs for NSF Award No. [REDACTED] Columbia believes that because [REDACTED] was able to provide documentation to support these expenses were incurred after the audit fieldwork was complete (See [Columbia's response](#) to the \$363,890 in Finding 1 for further details), the costs should be allowable.
- With respect to the \$3,850 in questioned costs for an unallowable long-term visa, Columbia believes the costs should be allowable because it received approval from NSF to charge the award for the long-term visa expense.
- With respect to the \$517 in questioned lodging costs Columbia did not agree to reimburse, Columbia believes these costs should be allowable because only \$384 of the \$901 in questioned lodging expenses were claimed in excess of the federal lodging per diem rate.
- With respect to the \$364 in questioned upgraded airfare costs, Columbia believes the costs should be allowable because the subrecipient purchased the least costly unrestricted airfare available in the main cabin, as allowed by the subrecipient's travel policy.

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

- With respect to the \$159,606 in unapproved subaward expenses, although Columbia supported that the SFSC approved each of the subawardees to receive seed funding that Columbia was responsible for administering under this award, because Columbia did not include the subaward in the approved proposal budget, nor did it obtain approval from the NSF Grants Officer, as required for the subawards to be allowable per NSF PAPPGs, our position regarding these exceptions has not changed.

³⁵ Columbia noted that it applied for this award under NSF Program Solicitation 18-598, which requires awardees to "allocate \$250,000 annually of its budget ...for a Seed Fund. The Seed Fund will be allocated on a competitive basis for small conferences, planning grants, travel, etc. The Steering Committee should be responsible for defining policy and processes for allocating the Seed Fund." Additionally, Columbia noted that the solicitation states that Seed Fund awards "are expected to be in the form of staff resources or subawards The Seed Fund can fund resources either within or outside the host institution(s)..."

- With respect to the \$36,389 in unallowable fringe benefit expenses, because our exception related to [REDACTED] applying fringe benefit costs using an unsupported 10 percent fringe benefit rate and not to a lack of subawardee documentation, our position regarding this exception has not changed.
- With respect to the \$3,850 for an unallowable long-term visa expense, while [REDACTED] provided documentation to support the expense was approved by NSF, because NSF has clarified in its Frequently Asked Questions (FAQs) that long-term visa expenses are unallowable,³⁶ our position regarding this exception has not changed.
- With respect to the \$517 in unallowable travel expenses, although Columbia only agreed to reimburse NSF for the \$384 in lodging expenses claimed above the per diem rate, because [REDACTED] removed the full \$901 in lodging costs from the award in response to the audit, our position regarding this exception has not changed.
- With respect to the \$364 for an unallowable airline upgrade, because the traveler purchased an “economy plus” seat rather than an “economy” ticket, which would represent the least costly unrestricted airfare, our position regarding this exception has not changed.

FINDING 3: INDIRECT COST RATES NOT APPROPRIATELY APPLIED

Columbia did not ensure its subawardees applied indirect cost rates consistent with their federal **Negotiated Indirect Cost Rate** Agreements (NICRAs) and/or federal regulations. As a result, Columbia charged \$9,441 in unallowable indirect costs to four NSF awards and allowed subawardees to inappropriately apply indirect cost rates to direct expenses invoiced on two NSF awards, as illustrated in Table 15.

Table 15: Indirect Cost Rates Not Appropriately Applied

NSF Award No.	Subawardee	Subawardee Expense Date(s)	Rate Applied (%)	Appropriate Rate (%)	Inappropriately Charged Indirect Costs	Notes
[REDACTED]	[REDACTED]	01/23/2020 – 11/11/2020	23.00	0.00	\$719	a
[REDACTED]	[REDACTED]	09/01/2019 – 12/31/2020	10.00	0.00	3,680	b
[REDACTED]	[REDACTED]	01/01/2021 – 09/31/2023	0.00	10.00	-	c
[REDACTED]	[REDACTED]	02/28/2021 – 06/30/2022	54.50 ³⁷	54.50	4,959	d

³⁶ NSF’s Frequently Asked Questions (FAQs) On Proposal Preparation and Award Administration Related to NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 22-1) states that the costs associated with longer-term immigration visas are not allowable as direct charges.

³⁷ Although [REDACTED] applied the applicable 54.50 percent rate per its NICRA (dated July 19, 2022) to some direct expenses, it did not appropriately apply this rate in all cases.

NSF Award No.	Subawardee	Subawardee Expense Date(s)	Rate Applied (%)	Appropriate Rate (%)	Inappropriately Charged Indirect Costs	Notes
██████	██████	06/30/2022 – 06/30/2023	10.00 ³⁸	10.00	83	e
██████	██████	02/24/2021 – 06/30/2023	0.00	26.00	-	f

Source: Auditor summary of identified exceptions.

- a) Columbia charged NSF Award No. ██████ for \$719 in unallowable indirect costs invoiced by ██████. Specifically, ██████ invoiced Columbia for \$719 in unallowable indirect costs as a result of inappropriately applying its indirect cost rate to Workplace Support Multiplier expenses, which are excluded from its MTDC base per its NICRA.³⁹
- b) Columbia charged NSF Award No. ██████ for \$3,680 in unallowable indirect costs invoiced by ██████. Specifically, between September 2019 and December 2020, ██████ invoiced Columbia for \$3,680 in unallowable indirect costs as a result of inappropriately applying the 10 percent de minimis indirect cost rate to equipment expenses, which are not allowable in MTDC.⁴⁰
- c) Columbia charged NSF Award No. ██████ for indirect costs that ██████ did not calculate using the appropriate MTDC base. Specifically, between January 2021 and August 2023, ██████ inappropriately excluded travel and other direct costs from the MTDC base to which it applied the 10 percent de minimis indirect cost rate. Because this did not result in indirect costs being overcharged to the NSF award, we are not questioning any costs associated with this exception.
- d) Columbia charged NSF Award No. ██████ for \$4,959 in unallowable indirect costs invoiced by ██████. Specifically, ██████ invoiced Columbia for \$4,959 in unallowable indirect costs as a result of processing manual indirect cost rate adjustments calculated using an inappropriate MTDC base (See Unsupported Subawardee Expenses in Finding 1 for questioned costs associated with ██████ unsupported expenses).
- e) Columbia charged NSF Award No. ██████ for \$83 in unallowable indirect costs invoiced by ██████. Specifically, ██████ invoiced Columbia for \$83 in unallowable indirect costs as a result of applying the 10 percent de minimis indirect cost rate to

³⁸ Although ██████ applied the 10 percent de minimis rate, it did not apply the rate to the appropriate MTDC base.

³⁹ ██████ NICRA (dated April 28, 2022) states that MTDC consists of all salaries and wages, fringe benefits, materials and supplies, services, and travel, excluding subcontracts, subgrants, depreciation, workplace support multiplier, strategic communications and public affairs multiplier, program and research strategy multiplier, and participant support costs.

⁴⁰ Per 2 CFR § 200.414 (December 26, 2014; revised November 12, 2020), *Indirect (F&A) costs*, non-federal entities that do not have a current negotiated rate may claim indirect costs by charging a de minimis rate of 10 percent of MTDC to federal awards. According to 2 CFR § 200.68 (December 26, 2014; revised November 12, 2020), MTDC excludes equipment.

direct costs that were not supported by [REDACTED] financial accounting records (See [Unsupported Subawardee Expenses in Finding 1](#) for questioned costs associated with [REDACTED] unsupported expenses).

- f) Columbia charged NSF Award No. [REDACTED] for indirect costs that [REDACTED] [REDACTED] calculated using an inappropriate MTDC base. Specifically, [REDACTED] did not include all of its material and supplies expenses within the MTDC base that it used when applying its indirect cost rate.⁴¹ Because this did not result in indirect costs being overcharging the NSF award, we are not questioning any costs associated with this exception.

Conclusion

Columbia 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 indirect cost rates to actual expenses supported by their GL data. We are therefore questioning \$9,441 in indirect costs charged to four NSF awards and noting compliance exceptions for the instances in which Columbia’s subawardees applied indirect cost rates to the incorrect MTDC base for two NSF awards. Columbia agreed to reimburse NSF for the \$9,441 in questioned costs, as illustrated in Table 16.

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

NSF Award No.	Subawardee	Description	Fiscal Year	Questioned Costs			Columbia Agreed to Reimburse
				Direct	Indirect	Total	
[REDACTED]	[REDACTED]	January 2020 to November 2020 Workplace Support Multiplier Expenses Included in MTDC Base	2020 – 2021	\$0	\$719	\$719	\$719
[REDACTED]	[REDACTED]	September 2019 to December 2020 Equipment Expenses Included in MTDC Base	2020 – 2021	-	3,680	3,680	3,680
[REDACTED]	[REDACTED]	January 2021 to August 2023 Travel and Other Direct Costs Excluded from MTDC Base	2021 – 2024	-	-	-	-
[REDACTED]	[REDACTED]	February 2021 to June 2022 Indirect Cost Rate Not Applied to	2021 – 2022	-	4,959	4,959	4,959

⁴¹ [REDACTED] NICRA (dated April 26, 2021) states that MTDC consists of salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward.

NSF Award No.	Subawardee	Description	Fiscal Year	Questioned Costs			Columbia Agreed to Reimburse
				Direct	Indirect	Total	
		Appropriate MTDC Base					
██████	██████	June 2022 to June 2023 Indirect Cost Rate Not Applied to Appropriate MTDC Base	2022 – 2023	-	83	83	83
██████	██████	February 2021 to June 2023 Materials and Supplies Excluded from MTDC Base	2021 – 2023	-	-	-	-
Total				<u>\$0</u>	<u>\$9,441</u>	<u>\$9,441</u>	<u>\$9,441</u>

Source: Auditor summary of identified exceptions.

Recommendations

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

- 3.1 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$9,441 in questioned indirect cost expenses for which it has agreed to reimburse NSF.
- 3.2 Direct Columbia 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 in order 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 guidance.
 - 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.

Columbia University Response: Columbia agreed with the finding, agreeing to reimburse NSF for the \$9,441 in questioned indirect cost expenses.

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

FINDING 4: FRINGE BENEFIT RATES NOT APPROPRIATELY APPLIED

Two of Columbia’s subawardees did not apply the fringe benefit rates established in their NICRAs when charging fringe benefits to two NSF awards, as illustrated in Table 17.

Table 17: Fringe Benefit Rates Not Appropriately Applied

NSF Award No.	Subawardee	Subawardee Expense Date(s)	Rate Applied (%)	Appropriate Rate (%)	Inappropriately Charged Fringe Costs	Notes
██████	████	03/31/2021 – 06/30/2021	29.10	30.20 ⁴²	\$0	a
██████	██████████	08/31/2022 and 12/31/2022 ⁴³	35.40	35.90 ⁴⁴	-	b

Source: Auditor summary of identified exceptions.

- a) Columbia charged NSF Award No. ██████ for fringe benefit expenses █████ invoiced using an inappropriate fringe benefit rate. Specifically, █████ applied its provisional 29.10 percent fringe benefit rate, rather than the 30.20 fixed fringe rate identified in its applicable NICRA when calculating fringe benefits for salaries earned between March 2021 and June 2021.
- b) Columbia charged NSF Award No. ██████ for fringe benefit expenses ██████ invoiced using an inappropriate fringe benefit rate. Specifically, ██████ inappropriately applied its FY 2023 fringe benefit rate of 35.40 percent—rather than applying its FY 2022 fringe benefit rate of 35.90 percent—to salary earned in FY 2022 when processing retroactive salary adjustments.

Conclusion

Columbia did not have sufficient policies, procedures, or internal controls in place to ensure its subawardees verified that they updated the fringe benefit rates upon receiving the fixed rates in their updated NICRAs or that its subawardees verified that they 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 subawardees did not apply the appropriate fringe benefit rates did not result in Columbia charging unallowable costs to NSF awards, we are not questioning any costs related to these exceptions. However, we are noting two compliance exceptions for the instances in which Columbia’s subawardees applied the incorrect fringe benefit rate, as illustrated in Table 18.

⁴² ██████ NICRA (dated July 30, 2018) established a provisional fringe benefit rate of 29.10 percent for salaries earned after July 2018. Additionally, ██████ NICRA (dated July 29, 2022) established a fixed fringe benefit rate of 30.20 percent for salaries earned between July 1, 2020, and June 30, 2021.

⁴³ Although ██████ posted the expenses in FY 2023, specifically in August and December 2022, the salary and related fringe was earned in FY 2022 between August 2021 and March 2022.

⁴⁴ ██████ NICRA (dated July 27, 2023) established a fixed fringe benefit rate of 35.90 percent for academic salaries earned between July 1, 2021, and June 30, 2022.

Table 18: Finding 4 Summary: Fringe Benefit Rates Not Appropriately Applied

NSF Award No.	Subawardee	Description	Fiscal Year
██████	█	March 2021 Fringe Benefit Rate Not Appropriately Applied	2021
██████	██████	August 2022 to December 2022 Fringe Benefit Rate Not Appropriately Applied	2023

Source: Auditor summary of identified exceptions.

Recommendations

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

- 4.1 Direct Columbia to strengthen its subaward monitoring procedures to ensure that it verifies whether its subawardees apply the appropriate fringe benefit rates included within their Negotiated Indirect Cost Rate Agreements.

Columbia University Response: Columbia disagreed with this finding, noting that neither Columbia nor the government require subrecipients to obtain approval to apply fringe at a rate lower than the rate allowed per their NICRAs.

Auditors’ Additional Comments: Our position regarding this finding has not changed. Specifically, because █ and ██████ applied fringe benefits at rates that differed from the rates approved in their NICRAs, and because Columbia did not provide support that it approved █ or ██████ applying lower rates, our position regarding this finding has not changed.

FINDING 5: NON-COMPLIANCE WITH FEDERAL REGULATIONS

Columbia did not always ensure that it and its subawardees complied with federal requirements for pass-through entities, financial management, and payment.

Non-Compliance with Federal Requirements for Pass-Through Entities

Columbia did not execute a modification to extend a subaward’s **period of performance (POP)**,⁴⁵ and one Columbia subawardee did not appropriately perform—or document that it performed—a risk assessment in compliance with federal requirements⁴⁶ for pass-through entities, as illustrated in Table 19.

⁴⁵ According to 2 CFR § 200.332 (December 26, 2014; revised November 12, 2020), *Requirements for Pass-Through Entities*, (a)(1), pass-through entities must ensure that every subaward includes the following information and if any of the data elements change, the pass-through entity include the changes in a subsequent subaward modification: (v) subaward period of performance start and end date; (vi) subaward budget period start and end date.

⁴⁶ According to 2 CFR § 200.331 (December 26, 2014), *Requirements for Pass-Through Entities*, (b), all pass-through entities must evaluate each subawardee’s risk of noncompliance with federal statutes, regulations, and the terms and conditions of the subaward for purposes of determining the appropriate subawardee monitoring.

Table 19: Non-Compliance with Federal Requirements for Pass-Through Entities

NSF Award No.	Subaward Effective Date	Exception Description	Notes
██████████	September 2019	Columbia did not execute a modification to extend the ██████████ subaward period of performance	a
██████████	September 2019	██████████ did not document risk assessment for subaward	b

Source: Auditor summary of identified exceptions.

- a) Columbia allowed ██████████ to invoice for expenses incurred past the NSF Award No. ██████████ subaward’s end date of May 31, 2020. Specifically, although Columbia received a no-cost extension for NSF Award No. ██████████ to extend the POP through May 31, 2021, it did not execute a modification to extend the POP end date of its subaward with ██████████. Because ██████████ did not invoice Columbia for any expenses incurred after the end date of the prime NSF award, we are not questioning any costs associated with this exception.
- b) ██████████ issued a second-level subaward to ██████████ for NSF Award No. ██████████ however, ██████████ did not document that it performed a risk assessment of ██████████ prior to executing the subaward agreement.

Non-Compliance with Federal Financial Management Requirements

One Columbia subawardee did not have a financial management system that provided for the complete disclosure of financial results, and five of Columbia’s subawardees did not have sufficient policies and procedures for determining the allowability of costs as required per federal regulations,⁴⁷ as illustrated in Table 20.

Table 20: Non-Compliance with Federal Financial Management Requirements

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Exception Description	Notes
September 2020 – May 2021	██████████	██████████	Subawardee did not have transaction-level data from a financial accounting information system to support costs claimed	a
January 2021 – March 2021	██████████	██████████	No policies or procedures for determining the allowability of sampled costs	b
January and May 2021	██████████	██████████	No policies or procedures for determining the allowability of sampled costs	c
March 2022 – March 2023	██████████	██████████	No policies or procedures for determining the allowability of sampled costs	d
June 2022	██████████	██████████	No policies or procedures for determining the allowability of sampled costs	e

⁴⁷ 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, (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.

Subawardee Expense Date(s)	NSF Award No.	Subawardee	Exception Description	Notes
September and October 2022	██████████	████	No policies or procedures for determining the allowability of sampled costs	f

Source: Auditor summary of identified exceptions.

- a) Between September 2020 and May 2021, ██████████ charged salary and indirect costs to NSF Award No. ██████████ AC provided two spreadsheets with manual entries to support how it calculated amounts charged; 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.
- b) Between January and March 2021, ██████████ charged salary and supply expenses to NSF Award No. ██████████ however, ██████████ did not provide policies or procedures for determining the allowability of these types of costs.
- c) In January and May 2021, ██████████ charged salary and consultant expenses to NSF Award No. ██████████ however, ██████████ did not provide policies or procedures for determining the allowability of these types of costs.
- d) Between March 2022 and March 2023, ██████████ charged salary expenses to NSF Award No. ██████████ however, ██████████ did not provide policies or procedures for determining the allowability of this type of cost.
- e) In June 2022, ██████████ charged salary expenses to NSF Award No. ██████████ however, ██████████ did not provide policies or procedures for determining the allowability of this type of cost.
- f) In September and October 2022, ██████████ charged salary and other direct costs to NSF Award No. ██████████ however, ██████████ did not provide policies or procedures for determining the allowability of these types of costs.

Non-Compliance with Federal Payment Requirements

Columbia did not have sufficient controls in place to ensure that it processed and paid invoices charged to three NSF awards in a timely manner, as required by federal regulations⁴⁸ and Columbia policy,⁴⁹ as illustrated in Table 21.

⁴⁸ According to 2 CFR § 200.305 (revised November 12, 2020), *Federal Payment*, (b)(3), when using the reimbursement method, the federal awarding agency or pass-through entity must make payment within 30 calendar days after receipt of the billing, unless the federal awarding agency or pass-through entity reasonably believes the request to be improper.

⁴⁹ Columbia's Sponsored Project Subawards Policy, Section F.3, *Invoices*, states that the PI and Departmental Administrator will review subaward invoices prior to authorizing payment. Within 45 days following the close of each fiscal quarter, the PI must confirm—in writing—that they reviewed such fiscal quarter's expenditures associated with each sponsored project for which they serve as the PI and that the expenditures were allowable and appropriate for such project.

Table 21: Non-Compliance with Federal Payment Requirements

Expense Date	NSF Award No.	Subawardee	Exception Description	Notes
October 2021	██████	██████	Columbia Did Not Pay Subawardee Invoice Within 30 Days	a
March 2023	██████	██████	Columbia Did Not Pay Subawardee Invoice Within 30 Days	b
December 2023	██████	██████	Columbia Did Not Pay Subawardee Invoice Within 30 Days	c

Source: Auditor summary of identified exceptions.

- a) In October 2021, Columbia paid a ██████ invoice charged to NSF Award No. ██████ almost four months after ██████ submitted—and Columbia initially received—the invoice in June 2021.
- b) In March 2023, Columbia paid a ██████ invoice charged to NSF Award No. ██████ approximately five months after ██████ submitted—and Columbia initially received—the invoice in October 2022.
- c) In December 2023, Columbia paid a ██████ invoice charged to NSF Award No. ██████ approximately eight months after ██████ submitted—and Columbia initially received—the invoice in April 2023. Because Columbia did not pay the invoice timely, the GL data that ██████ provided exceeded the expenses Columbia claimed for the ██████ subaward as of August 31, 2023, our audit period end date.

Conclusion

Columbia did not have sufficient policies and procedures or internal controls in place to ensure it complied with all federal requirements for passthrough entities when updating subaward agreements and federal requirements for paying invoices within 30 days. Further, Columbia’s subawardees did not have sufficient policies and procedures or internal controls in place to ensure they complied with all federal requirements for passthrough entities when monitoring subawards and federal requirements for financial management. Because these instances of non-compliance may have resulted in Columbia and its subawardees charging the unallowable, inadequately supported, unreasonable, or otherwise non-compliant costs identified in Findings 1 through 4 to NSF awards, or could result in unallowable costs to NSF awards in the future, we are noting compliance exceptions for the instances in which Columbia and its subawardees did not comply with applicable federal regulations, as illustrated in Table 22.

Table 22: Finding Summary 5: Non-Compliance with Federal Regulations

NSF Award No.	Organization	Description
[REDACTED]	[REDACTED]	Non-Compliance with Federal Requirements for Pass-Through Entities
[REDACTED]	[REDACTED]	Non-Compliance with Federal Requirements for Pass-Through Entities
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Financial Management Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Payment Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Payment Requirements
[REDACTED]	[REDACTED]	Non-Compliance with Federal Payment Requirements

Source: Auditor summary of identified exceptions.

Recommendations

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

- 5.1 Direct Columbia to establish and implement policies and procedures or internal controls for executing subaward modifications to extend the subaward period of performance prior to paying invoices under an expired subaward.
- 5.2 Direct Columbia to develop resources that provide its subawardees with guidance on how to perform—and document performance of—risk assessments prior to issuing subawards.
- 5.3 Direct Columbia to develop resources that provide its subawardees with guidance on the types of policies and procedures and financial accounting system records necessary to demonstrate compliance with federal financial management systems requirements.
- 5.4 Direct Columbia to establish and implement policies and procedures or internal controls for ensuring that invoices are processed and paid within the 30-day time limit.

Columbia University Response: Columbia agreed with this finding, specifically noting it will enhance its policies and procedures to include additional training for both employees and subawardees to ensure future compliance with relevant federal regulations and NSF policies for pass-through entities.

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

FINDING 6: NON-COMPLIANCE WITH SUBAWARD TERMS AND CONDITIONS

Columbia did not ensure that its subawardees complied with the invoicing and reporting requirements identified within the subaward terms and conditions.

Non-Compliance with Subaward Invoice Requirements

Columbia did not ensure that six subawardees submitted invoices inclusive of all information required in the invoice per the subaward's terms and conditions⁵⁰ and Columbia policy,⁵¹ as illustrated in Table 23.

Table 23: Non-Compliance with Subaward Invoice Requirements

NSF Award No.	Subaward Invoice Date	Subawardee	Invoice Did Not Include	Notes
██████	April 2021	██████	Cumulative costs, name of subrecipient contact, or certification of expenses	a
██████	April 2021	██████	A certification of expenses	b
██████	June 2021	██████	Cumulative costs or certification of expenses	c
██████	August 2021	██████	Cumulative costs or certification of expenses	d
██████	June 2022	██████	A certification of expenses	e
██████	July 2022	██████	A breakdown of expenses by cost category, cumulative costs, subrecipient contact, or certification of expenses	f

Source: Auditor summary of identified exceptions.

- a) In April 2021, ██████ invoiced Columbia for expenses charged to NSF Award No. ██████ however, the invoice did not include cumulative costs, the name of a subrecipient contact person, or a certification as to the accuracy and appropriateness of the expenses.
- b) In April 2021, ██████ invoiced Columbia for expenses charged to NSF Award No. ██████ however, the invoice did not include a certification as to the accuracy and appropriateness of the expenses.
- c) In June 2021, ██████ invoiced Columbia for expenses charged to NSF Award No. ██████ however, the invoice did not include cumulative costs or a certification as to the accuracy and appropriateness of the expenses.
- d) In August 2021, ██████ invoiced Columbia for expenses charged to NSF Award No. ██████ however, the invoice did not include cumulative costs or a certification as to the accuracy and appropriateness of the expenses.

⁵⁰ Subaward Terms and Conditions, Section 2., states that all invoices shall be submitted using the subawardee's standard invoice; however, at a minimum, all 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, *Required certifications.*, (a).

⁵¹ Columbia's *Sponsored Projects Subawards Policy* states that invoices should contain, at minimum, the following information: POP covered by the invoice; description of expenses itemized by major budget categories; current period costs, including cost sharing; cumulative project costs; subawardee contact person with respect to the invoice; and certification as to the accuracy and appropriateness of the expenses.

- e) In June 2022, [REDACTED] invoiced Columbia for expenses charged to NSF Award No. [REDACTED] however, the invoice did not include a certification as to the accuracy and appropriateness of the expenses.
- f) In June 2022, [REDACTED] invoiced Columbia for expenses charged to NSF Award No. [REDACTED] however, the invoice did not include a breakdown of expenses by cost category, cumulative costs, the name of a subrecipient contact person, or a certification as to the accuracy and appropriateness of the expenses.

Non-Compliance with Cost-Reimbursable Award Terms

Columbia did not ensure that one subawardee invoiced expenses in compliance with the cost-reimbursable terms of the subaward agreement,⁵² as illustrated in Table 24.

Table 24: Non-Compliance with Cost-Reimbursable Award Terms

Expense Dates	NSF Award No.	Subawardee	Exception Description	Notes
September 2020 – May 2021	[REDACTED]	AC	Expense reimbursement inappropriately treated as a fixed price subaward	a

Source: Auditor summary of identified exception.

- a) Between September 2020 and May 2021, [REDACTED] invoiced Columbia for \$31,233 in expenses charged to NSF Award No. [REDACTED] in three equal installments of the total subaward amount, rather than based on [REDACTED] actual reimbursable costs. Because [REDACTED] provided GL data to support the total expenses it incurred exceeded the expenses charged to the award, we are not questioning any costs for this exception.

Non-Compliance with Subaward Reporting Requirements

Columbia did not ensure that 31 of its subawardees complied with the reporting requirements established within the sampled subaward agreements.⁵³ Specifically, Columbia stated that because its subawardees frequently collaborated with the PIs and project teams to communicate pertinent information, it did not obtain the monthly, annual, final technical/progress, and/or final invention reports⁵⁴ required per the subaward agreements as part of its subawardee monitoring efforts,⁵⁵ as illustrated in Table 25.

⁵² Subaward Terms and Conditions, Section 1., states the pass-through entity (i.e., Columbia) hereby awards a cost-reimbursable subaward to the subawardee. Further, Section 2. states that the subawardee shall submit invoices for allowable costs incurred.

⁵³ Attachment 4, *Reporting and Prior Approval Terms*, of each subaward agreement included requirements for monthly reports, annual reports, a final technical/progress report, or a final invention report.

⁵⁴ Attachment 4, *Reporting and Prior Approval Terms*, states that monthly technical/progress reports will be submitted to the pass-through entity’s PI within 15 days of the end of the month. Quarterly technical/progress reports will be submitted within 30 days after the end of each project quarter to the pass-through entity’s PI. A final technical/progress and/or final invention report will be submitted to the pass through entity’s PI within 60 days of the end of the project period or after termination of this award, whichever comes first.

⁵⁵ According to 2 CFR 200.331 (December 26, 2014) and 2 CFR 200.332 (revised November 12, 2020), *Requirements for Pass-Through Entities*, (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 25: Subaward Reports Not Obtained

NSF Award No.	Subawardee	Monthly Reports	Annual Reports	Final Technical/ Progress Report	Final Invention Report
			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		
			X		
			X		
			X ⁵⁶		
			X		X
			X		
				X	
			X		
			X		
			X		

Source: Auditor summary of identified exceptions.

Conclusion

Columbia and its subawardees did not have sufficient policies, procedures, or internal controls in place to ensure that submitted subawardee invoices included all of the required data elements, that subawardees invoiced expenses consistent with the type of subaward agreement, and that subawardees submitted all technical/progress reports required per the subaward agreements. Because these instances of non-compliance did not directly result in Columbia charging unallowable costs to the NSF awards, we are not questioning any costs related to this finding. However, we are noting compliance exceptions for the instances in which Columbia’s subawardees did not comply with subaward terms and conditions, as illustrated in Table 26.

⁵⁶ Columbia indicated it did not have one of the two required annual reports.

Recommendations

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

- 6.1 Direct Columbia to update its invoice review procedures to ensure that subawardee invoices include all of the data elements required per the subaward terms and conditions.
- 6.2 Direct Columbia to develop additional resources for subawardees that provide guidance on how to ensure they appropriately account for and invoice expenses on a cost-reimbursement basis consistent with subaward terms and conditions.
- 6.3 Direct Columbia to implement additional policies or procedures to ensure that subawardees complete and submit any progress, technical, or other reports that Columbia requires per the subaward terms and conditions.

Columbia University Response: Columbia agreed with this finding, specifically noting it will revise its training and resources for its employees and subawardees surrounding invoicing and reporting requirements.

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

FINDING 7: NON-COMPLIANCE WITH COLUMBIA’S SPONSORED PROJECTS SUBAWARDS POLICY

Columbia did not always comply with—or document its compliance with—its *Sponsored Projects Subawards Policy*, which requires the completion of Subcontract Proposal Face Pages, the completion of Subrecipient/Contractor Classification Forms, timely PI approval of subawardee invoices before invoice payment, and the completion of an International Research Questionnaire (IRQ), when applicable, as illustrated in Table 27.

Table 27: Non-Compliance with Columbia’s Sponsored Projects Subawards Policy

NSF Award No.	Subawardee	Exception Description	Notes
[REDACTED]	[REDACTED]	Subcontract Proposal Face Page Not Completed Prior to Subaward Execution	a
[REDACTED]	[REDACTED]		
[REDACTED]	[REDACTED]	Subrecipient/Contractor Classification Form Not Completed Prior to Subaward Execution	b
[REDACTED]	[REDACTED]		
[REDACTED]	[REDACTED]		

NSF Award No.	Subawardee	Exception Description	Notes
[REDACTED]	[REDACTED]		
[REDACTED]	[REDACTED]		
[REDACTED]	[REDACTED]		
[REDACTED]	[REDACTED]	PI Did Not Approve Invoice in a Timely Manner	c
[REDACTED]	[REDACTED]	No Documentation to Support PI Approved Invoice	d
[REDACTED]	[REDACTED]	IRQ Not Completed	e

Source: Auditor summary of identified exceptions.

- a) For 11 subawardees, Columbia did not ensure that the PI submitted a Subcontract Proposal Face Page to Columbia’s Sponsored Programs Administration (SPA) with the award proposal or prior to when the subawards were executed.⁵⁷
- b) For 10 subawardees, Columbia did not ensure that the PI submitted a Subrecipient/Contractor Classification Form to Columbia’s SPA either with the award proposal or prior to when the subawards were executed.
- c) For one subawardee, Columbia did not ensure that the PI reviewed and approved the subaward invoice prior to payment or within 45 days following the close of each fiscal quarter.⁵⁸ Specifically, in February 2024, the PI did not approve a [REDACTED] [REDACTED] invoice until January 2023, approximately 13 months after the invoice was received and paid by Columbia.
- d) For one subawardee, Columbia did not provide documentation to support that the PI approved the subaward invoice before it was paid by Columbia.
- e) For one subawardee, Columbia did not appropriately complete an IRQ⁵⁹ because Columbia personnel did not appropriately complete the *Annex A, Criteria Questionnaire*, which is used to trigger completion of the IRQ.⁶⁰

⁵⁷ Columbia’s *Sponsored Project Subawards Policy*, Section D, *Requirements Prior to or At Time of Protocol Submission*, states that a Subcontract Proposal Face Page and Subrecipient/Contractor Classification Form must be submitted for each subaward at the time of proposal.

⁵⁸ Columbia’s *Sponsored Project Subawards Policy*, Section F.3, *Invoices*, states that the PI and Departmental Administrator will review subaward invoices prior to authorizing payment. Within 45 days following the close of each fiscal quarter, the PI must confirm in writing that they have reviewed such fiscal quarter’s expenditures associated with each Sponsored Project of which they are the PI and that the expenditures are allowable and appropriate for such Project.

⁵⁹ Columbia’s *Sponsored Project Subawards Policy*, Section D, *Requirements Prior to or At Time of Protocol Submissions*, states that an IRQ will be submitted for each subaward at the time of proposal, if applicable. Further, Columbia’s *International Research and Service Projects: Risk Management Procedures* state that *Annex B, IRQ*, is only required when one or more of the criteria questions in *Annex A, Criteria Questionnaire*, is answered “yes.”

⁶⁰ Columbia personnel reported a “no” response to *Annex A, Criteria Questionnaire*, question 4, which states: “Will the project involve the payment, promise to pay or authorization to pay money to any of the following entities: a) a government, or a department, agency or instrumentality of a government?”. However, because [REDACTED] is managed by the Government [REDACTED], question 4 should have reflected a “yes” response.

- 7.2 Direct Columbia 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.
- 7.3 Direct Columbia to implement internal controls to ensure that International Risk Questionnaires are appropriately completed and provided to Columbia’s Sponsored Projects Administration prior to subaward issuance.

Columbia University Response: Columbia agreed with this finding, specifically noting that it will enhance its policies and procedures to include additional employee training. Columbia also noted that it is in the early stages of implementing a Contract Lifecycle Management (CLM) platform, which will allow it to automate multiple elements of the processes required per its *Sponsored Projects Subawards* Policy and to identify any potential deviations.

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

AREA FOR IMPROVEMENT: INDIRECT COSTS NOT RECORDED IN SUBAWARDEES’ FINANCIAL ACCOUNTING INFORMATION SYSTEM

Two of Columbia’s subawardees did not record the indirect costs they invoiced to Columbia within their financial accounting systems. Specifically, although the subawardee invoices supported that each applied indirect costs using the appropriate indirect cost rates, the indirect costs invoiced to Columbia were not recorded within the subawardees’ GLs. As a result, their GL data did not reconcile to the cumulative costs they claimed on the sampled NSF subawards, as illustrated in Table 29.

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

NSF Award No.	Subaward	Award Date	Indirect Cost Rate Applied (%)	Indirect Costs Excluded from Subawardee GL
		09/01/2021	10.00	\$3,355
		10/01/2021	53.00	3,994

Source: Auditor summary of identified exceptions.

Conclusion

Because the subawardees’ aggregated financial management systems support that indirect costs were appropriately applied to the sampled subawards,⁶¹ we are not noting a finding. However, because subawardees not recording indirect costs within their financial accounting systems may result in Columbia charging unallowable indirect costs—such as those identified in Finding 3—to NSF awards, we are noting an area for improvement.

⁶¹ Per 2 CFR § 200.302 (December 26, 2014; revised November 12, 2020), *Financial management*, a subrecipient’s financial management system must provide accurate, current, and complete disclosure of the financial results of a federal award or program.

Consideration

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

- Directing Columbia to develop resources for subawardees that provide guidance on recording indirect costs within their financial accounting systems or implementing other controls to ensure indirect costs have proper support and reconcile to expenses claimed.

Columbia University Response: Columbia did not provide a response to this recommended area for improvement.

Auditors’ Additional Comments: Our position regarding our recommended area for improvement has not changed.

AREA FOR IMPROVEMENT: INSUFFICIENT CONTROLS RELATED TO THE APPLICATION OF INDIRECT COST RATES

Columbia did not have a formally documented policy or procedure in place to ensure its subawardees charged indirect costs using a rate no greater than the NICRA rate(s) in effect as of the NSF subaward date. Specifically, Columbia did not have a formal process for documenting its decision to allow its subawardees to apply a proposed indirect cost rate when the proposed rate is different than the NICRA rate(s) effective at the time of the subaward. As a result, Columbia could not support that it verified one subawardee’s use of its proposed indirect cost rate—rather, that its approved NICRA rate would not cause Columbia to overcharge NSF for indirect costs, as illustrated in Table 30.

Table 30: Proposed Indirect Cost Rates Applied

NSF Award No.	Subaward	Award Date	Rate Applied (%)	Appropriate Rate (%)
██████████	██████████	08/15/2020 ⁶²	39.00	42.00

Source: Auditor summary of identified exception.

Conclusion

Because this instance of a Columbia subawardee, the ██████████, charging indirect costs using a proposed rate did not directly result in Columbia charging unallowable costs to the NSF award, we are not noting a finding. However, we are noting an area for improvement, as Columbia’s lack of a formal process and/or procedure for allowing subawardees to apply proposed indirect cost rates could result in Columbia charging unallowable costs to NSF awards if its subawardees’ indirect cost rates were to decrease in the future.

⁶² ██████████ NICRA (dated April 20, 2020) established a predetermined indirect cost rate of 39.00 percent for on-campus organized research between July 1, 2019, and June 30, 2020, as well as a predetermined rate indirect cost rate of 42.00 percent for on-campus organized research between July 1, 2020, and June 30, 2024.

Consideration

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

- Directing Columbia to develop formal policies and/or procedures regarding how to verify—and how to document verification of—its subawardees' election to use proposed indirect cost rates. These should address how Columbia will ensure that the decision to use proposed indirect cost rates will not result in NSF being overcharged for indirect costs in cases when negotiated rates decrease within a single Negotiated Indirect Cost Rate Agreement or between the date the subaward is proposed and the date the subaward is awarded.

Columbia University Response: Columbia did not provide a response to this recommended area for improvement.

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

Sikich CPA LLC

January 28, 2025

APPENDIX A: COLUMBIA UNIVERSITY RESPONSE

COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

OFFICE OF THE VICE PRESIDENT FINANCE AND CONTROLLER

January 9, 2025

Re: Draft Report issued to Columbia University on December 3, 2024

Via Email

Office of the Inspector General
National Science Foundation
C/O Sikich CPA LLP
333 John Carlyle Street, Suite 500
Alexandria, Virginia 22314

Dear Sir or Madam:

The University would like to thank Sikich and NSF for their assistance during this audit. The University is committed to compliant management of federal funds and appreciates the OIG's efforts to ensure that sound administrative structures are in place around this critical process. The University manages approximately \$200 million in subrecipient expenses through 9,000 invoices on a fiscal year basis. As described in the Formal Draft Report (the "Draft Report"), issued December 3, 2024, OIG identifies \$661,353 in questioned costs, as reflected in the following table:

Category of Cost	Amount of Questioned Costs	Amount of Questioned Costs With Which Columbia Concur [*]
Inadequately supported expenses	\$ 437,025	\$ 36,484
Unallowable expenses	\$ 214,887	\$ 7,565
Indirect rates not appropriately applied	\$ 9,941	\$ 4,482
Total	Questioned costs: \$ 661,353	Columbia Concurrence: \$ 48,531

^{*}Net of \$23,777 which has already been resolved/removed from the awards

Most of the tentatively questioned costs, totaling \$560,402, relate to three matters, which the University does not concur that those amounts are inadequately supported or unallowable. Separately, we note that (i) we do not concur with \$28,643 across other findings/observations; (ii) \$23,777 has already been resolved by the subrecipients; and (iii) we concur with \$48,531 of OIG's observations.

The University's processes for managing subawards are robust, include detailed subrecipient risk assessments as required by the Uniform Guidance, and align with the applicable federal requirements. Indeed, the costs questioned in the Draft Report were identified through a level of inquiry exceeding that which would be applied by a responsible pass-through entity in the ordinary course of business. That said, the audit pointed out some areas in which we can enhance our processes, and we appreciate the auditor's observations. These will be addressed by enhancing training and guidance for departments and subrecipients concerning the invoicing requirements, documentation review, payment terms, and reporting required. Some of these training and guidance enhancements are currently underway, and other aspects are expected to be in place by June 30, 2025.. Specific responses to the audit findings and observations follow.

Finding 1: Inadequately Supported Expenses

Inadequately Supported Salary Expenses

The Draft Report stated that the University and certain subrecipients did not provide sufficient documentation to support \$388,319 in salary expenses charged to three NSF awards. The University does not concur that any portion of the questioned costs were unallowable, but does concur that for two subrecipients transactions selected, totaling \$24,429, that all the documentation requested from the subrecipient could not be obtained, as described below.

Most of the questioned expenses (\$363,890) relate to a single foreign subrecipient. Employees of this foreign subrecipient are paid directly by their government and are covered by contractual labor agreements. The subrecipient requested Government approval to share certain documentation during the audit but did not receive authority to do so until after the OIG fieldwork was completed. As a result, the subrecipient provided alternative documents to support salaries, including pay slips and governmental monthly payroll files, but did not fully resolve the auditor's questions by the time the Draft Report was issued. Subsequently, the subrecipient received approval from the relevant governmental agency to share employee contracts and the relevant labor agreement. The University has separately provided this support to the auditors, which we believe supports the entire \$363,890 of the amount questioned.

The remaining expenses (\$24,429) relate to the two other subrecipients, for which the University provided salary support. These subrecipients are small in scale and could not provide certain requested documentation on the accounting for time or level of effort. As per the University PI overseeing the award, all work was completed as required by the agreement and in line with the original approved budget. While the subrecipient's documentation efforts should be enhanced, the scope of work was completed, and subrecipients provided salary-supporting data for amounts invoiced. These costs should therefore be accepted.

Unsupported Subawardee Expenses

The Draft Report stated that the University and subrecipients did not provide documentation to support \$46,645 in expenses charged to four NSF awards. The University concurs with this finding. As part of the audit, the auditors requested all underlying receipts from the subrecipients for amounts invoiced to the University. This is broader than the reviews that the University would routinely be expected to perform; amounts are reviewed in context of the total budget, risk assessments, effort performed on the award, and other steps, which may include sampling of detailed expenses. However, the University is designing expanded sampling of detailed expenditures. Of the amount identified, approximately \$12,222 has been resolved, and the remaining \$34,423 will be resolved.

Unallowable Relocation Expenses

The Draft Report stated that the University and its subrecipients did not provide documentation to support \$2,061 in relocation expenses charged to one NSF award. The University concurs with this finding. The subrecipient reported they mistakenly included a \$2,061 reimbursement for moving expenses for an individual working on the sub-award. Because this charge was included in the salary and benefits total on the subrecipient invoice, the PI or Department Administrator reviewing this invoice would not have been aware that this charge was included. The University will resolve this item.

Finding 2: Unallowable Expenses

Unapproved Subaward Expenses

The Draft Report identified eight NSF awards that were charged for \$214,887 of expenses that were unallowable for various reasons. Of that total, \$6,596 has already been resolved and returned to the University

by the subrecipients. The University concurs with \$7,565 of the remaining \$208,291 and does not concur with the remainder, as explained below.

Unapproved Subaward Expenses

The Draft Report stated that Columbia charged NSF Award No. [REDACTED] a total of \$160,123 in subaward expenses and related indirect costs associated with three subawards for which Columbia did not obtain appropriate NSF approval. The University does not concur with this finding because this specific award vested the approval authority in a committee organized by the University.

The University applied for this award under NSF Program Solicitation [REDACTED]. A specific requirement of the program stated the University “must allocate \$250,000 annually of its budget ...for a Seed Fund. The Seed Fund will be allocated on a competitive basis for small conferences, planning grants, travel, etc. The Steering Committee should be responsible for defining policy and processes for allocating the Seed Fund.” The solicitation additionally states, the Seed Fund “awards are expected to be in the form of staff resources or subawards made through the life of the [REDACTED] funding. The Seed Fund can fund resources either within or outside the host institution(s) . . . “. The Notice of Award further stated, “The Seed Fund Steering Committee (SFSC) will administer the Seed Fund and develop and administer policies for allocation of the Seed Fund resource.”

All Seed Fund recipients were approved by the SFSC per its established procedures. The University, as the prime awardee, established these subawards on behalf of the SFSC, as was required by the award. Additionally, selection of the Seed Fund sites were disclosed to NSF consistently in the Annual Progress reports, which were each approved by NSF, showing clear benefit to the NSF. The nature of this award, issued as a cooperative agreement, included substantial NSF involvement, and at no time was an objection raised to the inclusion of these subawardees or the processes established by the SFSC.

The University also notes that no other instances of unapproved subawards were identified during this audit, indicating that the University has a process for obtaining approval when necessary and which did not apply in these instances. For this and for the aforementioned reasons, we do not concur with this finding.

Unallowable Fringe Benefit Expenses

The Draft Report stated that the University charged three NSF awards for \$43,954 in subrecipient fringe benefit expenses that were not allowable.

The University concurs with \$7,565 of the finding. The majority of these costs relate to the foreign subrecipient previously discussed above (\$36,389 of the \$43,954). The amounts have been fully documented and are reasonable. For the remaining two charges, we concur that these subrecipients mischarged the University by using a budgeted rate (\$7,411) and through a minor clerical error (\$154). The University will resolve these matters.

Duplicate Subaward Expenses

The Draft Report stated that the University charged one NSF award for \$5,695 in duplicate subaward expenses. The University concurs with this finding and has resolved the matter. The subrecipient mistakenly included multiple sub-agreements on an invoice related to one agreement, creating an overpayment of \$5,695. While the subrecipient involved was a sophisticated research university that Columbia deemed low risk during our initial and annual risk assessments, it did make an inadvertent error on a complex invoice. This subcontract covered \$14 million in activity and we believe this error would likely have been detected at the end of the contract during a final review. When made aware of this issue, the subrecipient immediately corrected this error as part of the next billing cycle of the agreement.

Unallowable Long-Term Visa Expense

The Draft Report stated that the University charged one NSF award for \$3,850 in long-term visa expenses invoiced by a subrecipient that were not allowable per federal regulations. The University does not concur with this finding. While we agree that visa costs are typically unallowable expenses on NSF awards, we received explicit written approval from NSF to charge the award for such costs. This approval was provided as support during the audit, but was not accepted by the auditors. .

Unallowable Travel Expenses

The Draft Report stated that two subrecipients invoiced Columbia on two NSF awards for \$1,265 in travel expenses that were not allowable. The University partially concurs with this finding.

One subrecipient charged \$901 in lodging expenses that exceeded the federal lodging per diem rates. The excess amounts were removed from the award in June 2024.

Auditors stated that a second subrecipient charged \$364 for an unallowable airline upgrade. 2 CFR 200.475(e) states that, absent an applicable exception, "airfare costs in excess of the basic least expensive unrestricted accommodations class offered by commercial airlines are unallowable". The subrecipient purchased the least costly unrestricted fare available in the main cabin, as allowed by the subrecipient's travel policy and federal guidance above. We do not concur with this finding.

Unallowable Stipend Expense

The Draft Report stated that the University charged one NSF award for \$8,320 in stipend expenses invoiced by one subrecipient that were not allowable. The University concurs with this finding and has resolved the matter. The subrecipient provided documentation to support that the expenses were removed from the award.

Unallowable Salaries and Wages Expenses

The Draft Report states that the University charged one NSF award for salary and wage expenses invoiced by one subrecipient that were not allowable. The University concurs with this finding. In January 2021, a subrecipient mistakenly charged a sub-award for \$517 in a bonus and associated fringe benefit expenses. Upon becoming aware of this error, the subrecipient resolved this matter by removing the \$517 charge.

Finding 3: Indirect Cost Rates Not Appropriately Applied

The Draft Report stated that the University did not ensure its subrecipients applied indirect cost rates consistent with their federal Negotiated Indirect Cost Rate Agreements (NICRAs) and/or federal regulations.

The total amount questioned in finding 3 is \$9,441, of which \$4,959 has been resolved and returned to the University by the subrecipient. The University concurs with the remaining \$4,482 of this finding. Please see detailed responses to each specific item.

a) One subrecipient mistakenly included an expense in the MTDC base that should have been excluded. This resulted in an overbilling of \$719, which the University will resolve.

b & c) One subrecipient applied the 10 percent de minimis indirect cost rate to equipment expenses, which should have been excluded from the MTDC, resulting in an unallowable \$3,680 charge to the award. The University will resolve this matter.

d) One subrecipient had a system error requiring a manual indirect cost rate adjustment. This manual adjustment was calculated with an error, resulting in a \$4,959 overbilling. This has been corrected.

e) We do not concur with item e, which would have resulted in additional amounts charged to the award. The subrecipient purchased individual supplies worth less than \$5,000 to fabricate an item that would be capitalized. Capital equipment does not generate full indirect cost recovery, but supplies would have. We believe the treatment was correct by not generating full indirect costs.

f) A subrecipient's invoice had \$83 in indirect cost that could not be substantiated. The University concurs.

g) Two subrecipients did not include all of their material and supplies expenses within the MTDC base it used when applying its indirect cost rate, resulting in an undercharge to the award.

Finding 4: Fringe Benefit Rates Not Appropriately Applied

The Draft Report stated that the University and two subrecipients did not consistently apply the fringe benefit rates established in their NICRAs when charging such costs to two NSF awards, which resulted in undercharging the awards. The University disagrees with this finding. Both subrecipients cited in this finding applied a lower fringe rate to the agreement than required under their NICRA. The University does not require a subrecipient to obtain our approval to use a lower rate, nor does the government.

Finding 5: Non-Compliance with Federal Requirements for Pass-Through Entities

The Draft Report identified isolated instances in which Columbia did not ensure that it and its subawardees complied with federal requirements for pass-through entities, financial management, and payment. No costs were cited in relation to these items.

a) "Columbia did not execute a modification to extend the end date of one of its subawards. Specifically, after receiving a no-cost extension for NSF Award No. [REDACTED] Columbia allowed the subrecipient to continue invoicing through May 31, 2021, the extended POP end date for NSF Award No. [REDACTED] however, Columbia did not formally amend the subaward agreement. Because the subrecipient did not incur expenses after the end date of the prime NSF award, we are not questioning any costs associated with this exception."

Columbia acknowledges that in this instance a timely modification was not executed. The University will enhance its policies and procedures to include additional training for employees and sub-awardees.

b) "A subrecipient issued a second-level subaward to a University for NSF Award No. [REDACTED] however, they did not document that it performed a risk assessment of the University prior to executing the subaward agreement."

Columbia acknowledges that the subrecipient could not provide support that a risk assessment had been performed of its second-level subaward prior to executing the subaward agreement. The University notes that the University is currently qualified as a low-risk entity with no Single Audit findings, Significant Deficiencies, or Material Weaknesses per the FDP Clearinghouse. However, Columbia will enhance its policies and procedures to ensure that subrecipients that issue second-level subawards have established procedures for conducting and maintaining documentation of their own risk assessments.

Non-Compliance with Federal Financial Management Requirements

The Draft Report stated that five of Columbia's subrecipients did not have sufficient policies and procedures for determining the allowability of costs, and one Columbia subawardee did not have a financial management system that provided for the complete disclosure of financial results. During Columbia's risk assessment, these subrecipients were identified as high-risk; the relevant department and Principal Investigator were notified of this designation, and our policy requires additional departmental procedures for reviewing and approving invoices. These steps are already included in the University's existing procedures, but additional training and reinforcement will be provided.

Non-Compliance with Federal Payment Requirements

The Draft Report stated that for three NSF awards, the University did not have sufficient controls in place to ensure that it processed and paid invoices in a timely manner, as required by federal regulations and University policy.

The University agrees that the auditors identified three instances in which the University did not pay subrecipient invoices timely. Subrecipient invoice receipt, review, and submission for payments occur in each department across the University. The University has a significant volume of subrecipient invoices (approx. 9,000 per FY) and departmental involvement for review purposes is critical. The University is researching a centralized tool to receive and route invoices. In the interim, additional training will be provided.

Finding 6: Non-Compliance with Subaward Terms and Conditions

Non-Compliance with Subaward Invoice Requirements

The Draft Report stated that the University did not ensure that six subrecipients submitted invoices inclusive of all necessary information, as required by subaward terms and conditions. The University agrees with these findings. The University will revise training for subrecipients and departments on information required on invoices.

Non-Compliance with Cost-Reimbursable Award Terms

The Draft Report stated that the University did not ensure that one subrecipient invoiced expenses in compliance with the cost-reimbursable terms of the subaward agreement. The University agrees with this finding. One subrecipient invoiced the University in equal installments based on the proposed budget when

invoicing should have been based on costs incurred. The subrecipient's total actual costs exceeded the expenses invoiced to the University, so no costs were questioned.

Non-Compliance with Subaward Reporting Requirements

The Draft Report stated that Columbia did not ensure that 31 of its subawardees complied with the progress reporting requirements established within the subaward agreements. The University will enhance its policies and procedures to include additional training and resources for employees and sub-awardees. This training will also provide information about required reporting requirements.

Finding 7: Non-Compliance with Columbia's Sponsored Projects Subawards Policy

The Draft Report stated that Columbia did not always comply with—or document its compliance with—its Sponsored Projects Subawards policy, and the auditor's observations generally relate to steps in the contracting process. The University will enhance its policies and procedures to include additional employee training. Additionally, the University has recently procured a Contract Lifecycle Management (CLM) platform, which is in the early stages of implementation. This platform will allow us to automate several elements of the processes outlined in the Sponsored Projects Subawards policy and more readily identify any potential omissions.

In closing, Columbia University would like to express its appreciation of OIG and its efforts and partnership during this review. OIG's observations have been invaluable in identifying ways to further enhance our processes.

If I can be of any further assistance in concluding this review, please do not hesitate to contact me.

Respectfully,

[REDACTED]

Mark Hawkins
Vice President, Finance & Controller
Columbia University

[REDACTED] [@columbia.edu](mailto:[REDACTED]@columbia.edu)

(212) [REDACTED]

APPENDIX B: OBJECTIVES, SCOPE, AND METHODOLOGY

Objectives

The NSF OIG 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 Columbia University (Columbia) during the audit period of performance (POP), beginning with the inception of each NSF award through August 31, 2023. The objectives of the audit were to determine whether subawardee expenses Columbia claimed were supported, allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and relevant NSF and federal requirements, and to evaluate Columbia’s compliance with federal and NSF requirements for pass-through entities and its institutional policies.

Scope

The audit population included approximately \$23,979,511 in subaward costs claimed by Columbia within NSF’s Award Cash Management Service (ACM\$) on the 31⁶³ NSF Awards from each award’s inception through August 31, 2023, as illustrated in Table 31.

Table 31: Summary of Subaward Costs Claimed by Columbia

NSF Award No.	Subaward Expenses
	\$161,409
	104,170
	631,128
	276,299
	216,475
	492,560
	737,258
	27,311
	293,150
	109,183
	14,405,017
	1,276,095
	1,071,918
	277,882
	34,057
	55,933
	1,237,401
	717,474
	7,162
	262,695
	602,347
	209,545
	28,985
	34,134
	143,652
	19,105
	57,088
	295,419

⁶³ Although 35 NSF awards were included within the audit scope, based on the general ledger (GL) data provided, Columbia only claimed subaward expenses on 31 of the 35 NSF awards.

NSF Award No.	Subaward Expenses
	147,873
	3,531
	43,256
Total	\$23,979,511

Source: Auditor analysis of accounting data that Columbia 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 Columbia provided by comparing the costs charged to NSF awards per Columbia’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 Columbia and NSF OIG. NSF OIG provided award data that Columbia reported through ACM\$ during our audit period.
 - We assessed the reliability of the GL data that Columbia provided by:
 - (1) comparing the total costs Columbia charged to the 35 NSF awards identified in the original audit scope,⁶⁴ per Columbia’s accounting records, to the reported net expenditures reflected in the ACM\$ drawdown requests that Columbia submitted to NSF for each of the awards before August 31, 2023; and
 - (2) reviewing the parameters that Columbia used to extract transaction data from its accounting systems.

We found Columbia’s computer-processed data to be sufficiently reliable for the purposes of the audit. We did not identify any exceptions with the parameters Columbia 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)

⁶⁴ Columbia provided GL data to support the \$60,112,003 in expenditures it had claimed in ACM\$ as of August 31, 2023, on the following 35 NSF awards:

[REDACTED]

2023 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

- Columbia provided detailed transaction-level data to support \$23,979,511 in incurred subaward costs charged to NSF awards during the audit period. This data resulted in a total audit universe of \$23,979,511 in expenses claimed on 31 NSF awards.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information Columbia and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, and Columbia-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 Columbia's internal controls within the audit's scope solely to understand the directives or policies and procedures that Columbia has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, and Columbia policies.
- Providing Columbia with a list of 37 subaward transactions selected from its GL data and 80 transactions selected from the subawardees' GL data sets and requesting that Columbia and the subawardees provide documentation to support each transaction.
- Reviewing the supporting documentation that Columbia and the subawardees provided, as well as requesting additional documentation as necessary to ensure we obtained sufficient, appropriate evidence to assess the allowability of each sampled transaction under relevant federal,⁶⁵ NSF,⁶⁶ Columbia,⁶⁷ and subawardee policies.⁶⁸

⁶⁵ We assessed Columbia's compliance with 2 Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

⁶⁶ We assessed Columbia'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 Columbia and its subawardee's compliance with NSF policies and procedures, as appropriate.

⁶⁷ We assessed Columbia's compliance with its own internal policies and procedures surrounding subaward costs budgeted for or charged to NSF awards.

⁶⁸ We assessed each subawardee's compliance with its own internal policies and procedures surrounding subaward costs budgeted for or charged to NSF awards.

- Holding virtual interviews and walkthroughs with Columbia in January 2024 to discuss subawards; specifically, how Columbia assesses risk and monitors and approves subawards and subawardee invoices.

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 Columbia personnel to ensure Columbia 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

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

Finding No.	Description	Questioned Costs		Total
		<i>Unsupported</i>	<i>Unallowable</i>	
1	Inadequately Supported Expenses	\$53,206	\$383,819	\$437,025
2	Unallowable Expenses	-	214,887	214,887 ⁶⁹
3	Indirect Cost Rates Not Appropriately Applied	-	9,441	9,441
4	Fringe Benefit Rates Not Appropriately Applied	-	-	-
5	Non-Compliance with Federal Regulations	-	-	-
6	Non-Compliance with Subaward Terms and Conditions	-	-	-
7	Non-Compliance with Columbia's Sponsored Projects Subawards Policy	-	-	-
Total		<u>\$53,206</u>	<u>\$608,147</u>	<u>\$661,353</u>

Source: Auditor summary of questioned costs by finding.

⁶⁹ This includes \$8,837 of overlapping questioned costs.

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

NSF Award No.	No. of Exceptions	Questioned Direct Costs	Questioned Indirect Costs	Questioned Total	Columbia Agreed to Reimburse
	1	\$0	\$0	\$0	\$0
	15	98,841	61,282	160,123 ⁷⁰	517
	1	1,968	93	2,061	2,061
	9	125	748	873	873
	2	-	-	-	-
	8	397,486	40,069	437,555	37,276
	5	6,737	674	7,411	7,411
	8	4,500	-	4,500	-
	14	5,695	-	5,695	5,695
	2	-	-	-	-
	5	9,460	6,033	15,493 ⁷¹	15,493
	6	-	-	-	-
	1	-	-	-	-
	2	-	-	-	-
	6	1,688	-	1,688	1,688
	5	827	83	910	910
	1	-	-	-	-
	6	18,344	1,949	20,293	-
	4	3,085	1,666	4,751	384
Total	<u>102</u>	<u>\$548,756</u>	<u>\$112,597</u>	<u>\$661,353</u>	<u>\$72,308</u>

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

⁷⁰ Includes \$517 in “overlapping” questioned costs that we recommend NSF recover. Refer to Finding 2, Table 13.

⁷¹ Includes \$8,320 in “overlapping” questioned costs that we recommend NSF recover. Refer to Finding 2, Table 12.

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

NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
[REDACTED]	March 2021 to June 2021 Unapproved Subaward	\$25,000	\$15,500	\$40,500	\$517
	May 2021 to October 2021 Unapproved Subaward	49,131	30,462	79,593	-
	July 2022 Unapproved Subaward	24,710	15,320	40,030	-
	Non-Compliance with Federal Payment Requirements	-	-	-	-
	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Federal Requirements for Pass-Through Entities	-	-	-	-
[REDACTED]	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	August 2023 Duplicate Subaward Expenses	5,695	-	5,695	5,695
	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Federal Payment Requirements	-	-	-	-
	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
[REDACTED]	Non-Compliance with Federal Payment Requirements	-	-	-	-
	Non-Compliance with Columbia’s Sponsored Projects Subawards Policy	-	-	-	-
Total		<u>\$104,536</u>	<u>\$61,282</u>	<u>\$165,818</u>	<u>\$6,212</u>

Source: Auditor summary of identified exceptions.

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

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
█	█	May 2023 Inadequately Supported Salary Expenses	\$18,117	\$1,812	\$19,929	\$0
		Non-Compliance with Federal Financial Management Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	Non-Compliance with Federal Financial Management Requirements	-	-	-	-
		Non-Compliance with Subaward Invoice Requirements	-	-	-	-
		Non-Compliance with Cost-Reimbursable Award Terms	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	December 2019 to December 2020 Unallowable Fringe Benefits	6,737	674	7,411	7,411
		Non-Compliance with Federal Requirements for Pass-Through Entities	-	-	-	-
		Non-Compliance with Subaward Invoice Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	May 2021 to June 2022 Unsupported Expenses	1,688	-	1,688	1,688
		Non-Compliance with Subaward Invoice Requirements	-	-	-	-
█	█	October 2022 Unallowable Long-Term Visa Expense	2,500	1,350	3,850	-
		June 2022 Unallowable Travel Expense	585	316	901	384
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
█	█	December 2019 to August 2023 Inadequately Supported Salary Expenses	330,809	33,081	363,890	-
		December 2019 to August 2023 Unallowable Fringe Benefits	33,081	3,308	36,389	-
		December 2020 to February 2023 Unsupported Expenses	33,596	-	33,596	33,596
		September 2019 to December 2020 Equipment Expenses Included in MTDC base	-	3,680	3,680	3,680
		January 2021 to September 2023 Travel and Other Direct Costs Excluded from MTDC base	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	October 2023 Unallowable Stipend	-	-	- ⁷²	-
		May 2021 to January 2023 Unsupported Expenses	9,460	1,074	10,534	10,534
		February 2021 to June 2022 Indirect Cost Rate Not Applied to Appropriate MTDC base	-	4,959	4,959	4,959
		March 2021 Fringe Benefit Rate Not Appropriately Applied	-	-	-	-
		Non-Compliance with Subaward Invoice Requirements	-	-	-	-
█	█	October 2022 to August 2023 Unsupported Expenses	827	-	827	827
		June 2022 to June 2023 Indirect Cost Rate Not Applied to Appropriate MTDC base	-	83	83	83
		Non-Compliance with Federal Financial Management Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-

⁷² This includes \$8,320 of “overlapping” costs. Refer to Finding 2, Table 12.

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
██████	██████	January 2021 Unallowable Bonus Expense	-	-	-.73	-
		Non-Compliance with Federal Financial Management 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 Federal Financial Management 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	-	-	-	-
██████	██████	April 2021 Inadequately Supported Salary Expenses	4,500	-	4,500	-
		Non-Compliance with Federal Financial Management Requirements	-	-	-	-
		Non-Compliance with Subaward Invoice Requirements	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-

⁷³ This includes \$517 of “overlapping” questioned costs. Refer to Finding 2, Table 13.

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	May 2023 Unallowable Travel Expense	227	137	364	-
		August 2022 to December 2022 Fringe Benefit Rate Not Appropriately Applied	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	August 2021 Unallowable Relocation Expense	1,968	93	2,061	2,061
█	█	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	-	-	-	-
█	█	October 2020 Unallowable Fringe Benefits	125	29	154	154
		January 2020 to November 2020 Workplace Support Multiplier Expenses included in MTDC base	-	719	719	719
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-
█	█	February 2021 to June 2023 Materials and Supplied Excluded from MTDC base	-	-	-	-
		Non-Compliance with Subaward Reporting Requirements	-	-	-	-

Subawardee	NSF Award No.	Description	Direct	Indirect	Total	Columbia Agreed to Reimburse
█	█	Non-Compliance with Subaward Reporting Requirements	-	-	-	-
Total			<u>\$444,220</u>	<u>\$51,315</u>	<u>\$495,535</u>	<u>\$66,096</u>

Source: Auditor summary of identified exceptions.

APPENDIX D: SUMMARY OF RECOMMENDATIONS

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

- 1.1 Resolve the \$388,319 in questioned salary costs and direct Columbia to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$48,706 in questioned unsupported subaward and relocation expenses for which it has agreed to reimburse NSF.
- 1.3 Direct Columbia to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include implementing additional procedures that require Columbia to verify that subawardees maintain adequate documentation to support expenses and submit invoices based on actual expenses incurred and not based on the award budget.
- 1.4 Direct Columbia to implement additional procedures that require it—or its subawardees—to perform periodic reconciliations to ensure that expenses paid to its subawardees are supported by the subawardees' financial records.
- 1.5 Direct Columbia to develop additional resources that provide guidance to subawardees on the types of documentation they are required to retain in order to support the allowability of salary and relocation expenses charged to NSF awards. These resources should also address ensuring fringe benefit rates are not applied to non-salary expenses.
- 2.1 Resolve the \$200,726 in questioned costs and direct Columbia to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$14,161 in questioned unallowable fringe benefit, subaward, and travel expenses for which it has agreed to reimburse NSF.
- 2.3 Direct Columbia to strengthen its policies, procedures, and internal controls around subrecipient monitoring to ensure subawardees comply with federal and NSF requirements when incurring expenses under NSF awards. This could include developing additional resources for subawardees that provide guidance regarding the allowable charging of expenses—including salary, bonus, fringe benefit, visa, and travel expenses—consistent with federal and NSF regulations.
- 2.4 Direct Columbia to strengthen its internal controls and processes for obtaining NSF approval for subawards. This could include:
 - Requiring Sponsored Projects Administration to verify whether a subaward is explicitly identified within the award budget approved by NSF or written approval is obtained 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.
- 2.5 Direct Columbia to strengthen its procedures and internal controls around invoice processing to ensure duplicate payments are not made to subawardees.
- 3.1 Direct Columbia to provide documentation supporting it has repaid or otherwise credited the \$9,441 in questioned indirect cost expenses for which it has agreed to reimburse NSF.
- 3.2 Direct Columbia 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 in order 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 guidance.
 - 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 Columbia to strengthen its subaward monitoring procedures to ensure that it verifies whether its subawardees apply the appropriate fringe benefit rates included within their Negotiated Indirect Cost Rate Agreements.
- 5.1 Direct Columbia to establish and implement policies and procedures or internal controls for executing subaward modifications to extend the subaward period of performance prior to paying invoices under an expired subaward.
- 5.2 Direct Columbia to develop resources that provide its subawardees with guidance on how to perform—and document performance of—risk assessments prior to issuing subawards.
- 5.3 Direct Columbia to develop resources that provide its subawardees with guidance on the types of policies and procedures and financial accounting system records necessary to demonstrate compliance with federal financial management systems requirements.

- 5.4 Direct Columbia to establish and implement policies and procedures or internal controls for ensuring that invoices are processed and paid within the 30-day time limit.
- 6.1 Direct Columbia to update its invoice review procedures to ensure that subawardee invoices include all of the data elements required per the subaward terms and conditions.
- 6.2 Direct Columbia to develop additional resources for subawardees that provide guidance on how to ensure they appropriately account for and invoice expenses on a cost-reimbursement basis consistent with subaward terms and conditions.
- 6.3 Direct Columbia to implement additional policies or procedures to ensure that subawardees complete and submit any progress, technical, or other reports that Columbia requires per the subaward terms and conditions.
- 7.1 Direct Columbia to implement internal controls to ensure that all required subawardee documentation is appropriately completed and provided to Columbia's Sponsored Projects Administration prior to subaward issuance.
- 7.2 Direct Columbia 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.
- 7.3 Direct Columbia to implement internal controls to ensure that International Risk Questionnaires are appropriately completed and provided to Columbia's Sponsored Projects Administration prior to subaward issuance.

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

- Directing Columbia to develop resources for subawardees that provide guidance on recording indirect costs within their financial accounting systems or implementing other controls to ensure indirect costs have proper support and reconcile to expenses claimed.
- Directing Columbia to develop formal policies and/or procedures regarding how to verify—and how to document verification of—its subawardees' election to use proposed indirect cost rates. These should address how Columbia will ensure that the decision to use proposed indirect cost rates will not result in NSF being overcharged for indirect costs in cases when negotiated rates decrease within a single Negotiated Indirect Cost Rate Agreement or between the date the subaward is proposed and the date the subaward is awarded.

APPENDIX E: GLOSSARY

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

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

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

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

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

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 (GAAP) (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.](#)

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

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

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

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

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

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

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 a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs. (2 CFR § 200.68).

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

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

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

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.](#)

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

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

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, no later than March 10, 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.

Contact Us

Address:

U.S. National Science Foundation Office of Inspector General
2415 Eisenhower Avenue
Alexandria, VA 22314

Phone: 703-292-7100

Website: oig.nsf.gov

Follow us on X (formerly Twitter): twitter.com/nsfoig

Congressional, media, and general inquiries: OIGPublicAffairs@nsf.gov

Freedom of Information Act inquiries: FOIAOIG@nsf.gov

Report Fraud, Waste, or Abuse

Report violations of laws, rules, or regulations; mismanagement; and research misconduct involving NSF operations or programs via our Hotline:

- File online report: oig.nsf.gov/contact/hotline
- Anonymous Hotline: 1-800-428-2189
- Mail: 2415 Eisenhower Avenue, Alexandria, VA 22314 ATTN: OIG HOTLINE

Have a question about reporting fraud, waste, or abuse? Email OIG@nsf.gov.

Whistleblower Retaliation Information

All NSF employees, contractors, subcontractors, awardees, and subawardees are protected from retaliation for making a protected disclosure. If you believe you have been subject to retaliation for protected whistleblowing, or for additional information on whistleblower protections, please visit oig.nsf.gov/whistleblower.