

# Performance Audit of Mid-Scale Research Infrastructure Incurred Costs – Monterey Bay Aquarium Research Institute

REPORT PREPARED BY COTTON & COMPANY ASSURANCE AND ADVISORY, LLC

NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL

August 4, 2023  
OIG 23-1-009





## AT A GLANCE

Performance Audit of Mid-Scale Research Infrastructure Incurred Costs –  
Monterey Bay Aquarium Research Institute  
Report No. OIG 23-1-009  
August 4, 2023

### AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company Assurance and Advisory, LLC (C&C) to conduct a performance audit of Monterey Bay Aquarium Research Institute's (MBARI) Mid-scale Research Infrastructure award. The auditors tested more than \$1.7 million of the approximately \$9.3 million of costs claimed to NSF. The audit objective was to evaluate MBARI's award management and oversight capabilities as they relate to the Mid-scale program requirements on NSF Award No. [REDACTED]. A full description of the audit's objectives, scope, and methodology is attached to the report as Appendix B.

### AUDIT RESULTS

MBARI generally complied with federal and NSF regulations, NSF program and award terms and conditions, and MBARI policies while administering its Mid-scale award. However, the report identified three findings and two areas for improvement related to MBARI's compliance with award requirements. The auditors questioned \$2,891 of inappropriately allocated expenses and identified two compliance-related findings for which no costs were questioned: non-compliance with MBARI's purchasing policy and non-compliance with NSF's Mid-scale reporting policy. In addition to the findings, the report also includes two areas for improvement related to equipment tagging and NSF's Project Execution Plan development. C&C is responsible for the attached report and the conclusions expressed in it. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

### RECOMMENDATIONS

The auditors included three findings and two areas for improvement in the report with associated recommendations for NSF to resolve the questioned costs and to ensure MBARI strengthens administrative and management controls.

### AUDITEE RESPONSE

MBARI generally agreed with each of the findings in the report. MBARI's response is attached in its entirety as Appendix A.

FOR FURTHER INFORMATION, CONTACT US AT [OIGPUBLICAFFAIRS@NSF.GOV](mailto:OIGPUBLICAFFAIRS@NSF.GOV).



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

**MEMORANDUM**

**DATE:** August 4, 2023

**TO:** Quadira Dantro  
Director  
Division of Institution and Award Support

Jamie French  
Director  
Division of Grants and Agreements

Matthew Hawkins  
Office Head  
Research Infrastructure Office

**FROM:** Daniel J. Buchtel [REDACTED]  
Deputy Assistant Inspector General  
Office of Audits

**SUBJECT:** Audit Report No. 23-1-009, Monterey Bay Aquarium Research Institute

This memorandum transmits the Cotton & Company Assurance and Advisory, LLC (C&C) report for the audit of Monterey Bay Aquarium Research Institute's (MBARI) Mid-scale Research Infrastructure award. The audit encompassed more than \$1.7 million of the approximately \$9.3 million of costs claimed to NSF during the period. The audit objective was to evaluate MBARI's award management and oversight capabilities as they relate to the Mid-scale program requirements on NSF Award No. [REDACTED]. A full description of the audit's objectives, scope, and methodology is attached to the report as Appendix B.

Please coordinate with our office during the 6-month resolution period, as specified by OMB Circular A-50, to develop a mutually agreeable resolution of the audit findings. The findings should not be closed until NSF determines that all recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

## **OIG Oversight of the Audit**

C&C is responsible for the attached auditors' report and the conclusions expressed in this report. We do not express any opinion on the conclusions presented in C&C's audit report. To fulfill our responsibilities, we:

- reviewed C&C's approach and planning of the audit;
- evaluated the qualifications and independence of the auditors;
- monitored the progress of the audit at key points;
- coordinated periodic meetings with C&C, as necessary, to discuss audit progress, findings, and recommendations;
- reviewed the audit report prepared by C&C; and
- coordinated issuance of the audit report.

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Billy McCain at 703.292.7100 or [OIGpublicaffairs@nsf.gov](mailto:OIGpublicaffairs@nsf.gov).

Attachment

cc: Stephen Willard, Dan Reed, Victor McCrary, John Veysey, Ann Bushmiller, Karen Marrongelle, Teresa Grancorvitz, Christina Sarris, Janis Coughlin-Piester, Linnea Avallone, Alex Wynnyk, Rochelle Ray, Charlotte Grant-Cobb, Allison Lerner, Lisa Vonder Haar, Ken Chason, Ken Lish, Billy McCain, Jennifer Kendrick, Louise Nelson, Karen Scott

## EXECUTIVE SUMMARY

The Cotton & Company Assurance and Advisory, LLC, audit team determined that Monterey Bay Aquarium Research Institute (MBARI) has generally complied with federal and NSF regulations, NSF program and award terms and conditions, and MBARI policies while administering its Mid-scale Research Infrastructure 2 (Mid-scale RI-2) award. However, the audit team identified three findings and two areas for improvement related to MBARI's compliance with relevant Mid-scale RI-2 award requirements.

## AUDIT OBJECTIVES

The National Science Foundation Office of Inspector General engaged Cotton & Company Assurance and Advisory, LLC (herein referred to as "we"), to conduct a performance audit of costs MBARI incurred on NSF Award No. [REDACTED] from the award's inception date through September 30, 2022. The audit objectives included evaluating MBARI's award management and oversight capabilities as they relate to the Mid-scale RI-2 award and general grant management requirements. The audit scope also included performing testing to determine if costs claimed on the NSF award were allowable, allocable, reasonable, and in compliance with relevant federal and NSF regulations. We have attached a full description of the audit's objectives, scope, and methodology as [Appendix B](#).

## AUDIT CRITERIA

The audit team assessed MBARI's compliance with relevant federal regulations (i.e., 2 Code of Federal Regulations [CFR] 200); NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 20-1 and 22-1; NSF's Mid-scale RI-2 Program Solicitation (NSF 19-542); NSF's *Major Facilities Guide* (MFG) (NSF 19-68); NSF's *Research Infrastructure Guide* (RIG) (NSF 21-107); and MBARI 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 \$2,891 in costs MBARI inappropriately claimed during the audit period, including:

- \$2,891 in inappropriately allocated expenses

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

- Non-compliance with MBARI's purchasing policy
- Non-compliance with Mid-scale reporting policy

In addition to the three findings, the audit report includes two areas for improvement for MBARI to consider related to:

- Equipment tagging
- Project Execution Plan (PEP) development

## RECOMMENDATIONS

The audit report includes five recommendations and one consideration for NSF's Director of the Division of Institution and Award Support, and one consideration for NSF's Office Head of the Research Infrastructure Office related to resolving the \$2,891 in questioned costs and ensuring MBARI strengthens its award management environment, as summarized in [Appendix D](#).

## AUDITEE RESPONSE

MBARI generally agreed with the findings in the audit report, agreeing to repay NSF for the \$2,891 in questioned costs and strengthen its controls to ensure future compliance. MBARI's response to the audit report is attached, in its entirety, as [Appendix A](#).

## Table of Contents

<b>Background</b> .....	<b>1</b>
Audit Scope.....	2
<b>Audit Results</b> .....	<b>4</b>
Finding 1: Inappropriately Allocated Expenses.....	4
Finding 2: Non-Compliance with MBARI’s Purchasing Policy.....	6
Finding 3: Non-Compliance with Mid-scale Reporting Policy.....	8
Area for Improvement 1: Equipment Tagging.....	9
Area for Improvement 2: PEP Compliance .....	10
Appendix A: MBARI’s Response .....	12
Appendix B: Objectives, Scope, and Methodology.....	14
Appendix C: Summary of Questioned Costs.....	18
Appendix D: Summary of Recommendations and Considerations.....	22
Appendix E: Glossary.....	24

## Abbreviations

<b>ACM\$</b>	Award Cash Management \$ervice
<b>CEO</b>	Chief Executive Officer
<b>CFO</b>	Chief Financial Officer
<b>CFR</b>	Code of Federal Regulations
<b>FY</b>	Fiscal Year
<b>GAGAS</b>	Generally Accepted Government Auditing Standards
<b>GAO</b>	Government Accountability Office
<b>MBARI</b>	Monterey Bay Aquarium Research Institute
<b>MFG</b>	Major Facilities Guide
<b>NSF</b>	National Science Foundation
<b>OIG</b>	Office of Inspector General
<b>PAPPG</b>	Proposal and Award Policies and Procedures Guide
<b>PEP</b>	Project Execution Plan
<b>PI</b>	Principal Investigator
<b>PO</b>	Purchase Order
<b>POP</b>	Period of Performance
<b>RI</b>	Research Infrastructure
<b>RIG</b>	Research Infrastructure Guide

## BACKGROUND

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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.

In 2019, NSF began awarding grants under its new Mid-scale **Research Infrastructure (RI)** Program, which was designed to provide NSF with an agile process for funding experimental research capabilities in the Mid-scale range.<sup>1</sup> The Mid-scale RI Program provides award funding through two tracks: Mid-scale Research Infrastructure 1 (**Mid-scale RI-1**) and Mid-scale Research Infrastructure 2 (**Mid-scale RI-2**). Specifically, Mid-scale RI-1 awards support the implementation or design stage of an RI project and Mid-scale RI-2 awards support the implementation stage of an RI project.<sup>2</sup>

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

NSF OIG engaged Cotton & Company Assurance and Advisory, LLC (herein referred to as “we”), to conduct a performance audit of costs Monterey Bay Aquarium Research Institute (MBARI) incurred on a single Mid-scale RI-2 award: NSF Award No. [REDACTED]. This \$52.9 million<sup>3</sup> NSF award, titled “[REDACTED]” was awarded in October 2020 to allow MBARI to build and deploy 500 profiling floats to monitor ocean biology and chemistry.

MBARI is a nonprofit oceanographic research center located in Moss Landing, California that focuses on developing innovative marine technology. In fiscal year (FY) 2021, MBARI reported approximately \$18.8 million in federal expenditures, with approximately \$10.6 million in expenditures on NSF direct and pass-through awards, as illustrated in Figure 1.

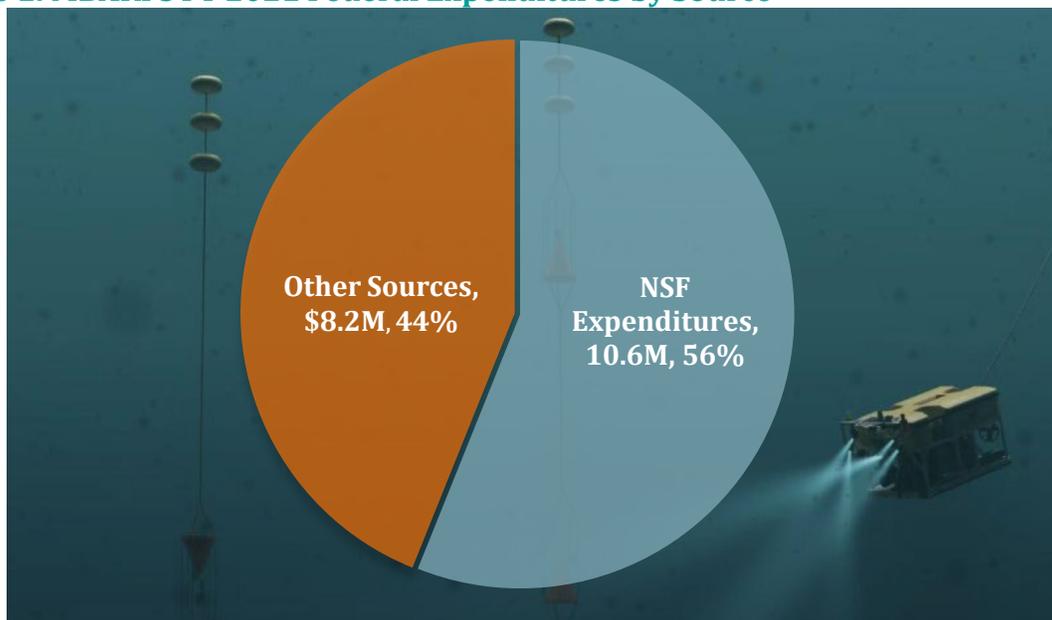
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<sup>1</sup> Per NSF’s *Major Facilities Guide* (MFG) (NSF 19-68) and *Research Infrastructure Guide* (RIG) (21-107), a Mid-scale project means research instrumentation, equipment, and upgrades to major research facilities or other research infrastructure investments that exceeds the maximum funded by the Major Research Instrumentation Program and are below that of a major multi-user research facility project.

<sup>2</sup> Per NSF 19-537 and NSF 19-542, the implementation track is intended to facilitate the acquisition or construction, and the design track is intended to facilitate progress toward readiness, for a Mid-scale range implementation project.

<sup>3</sup> Although NSF Award No. [REDACTED]’s has a total intended award amount of \$52,942,74, only \$25,775,357 in funding had been obligated for this award as of September 30, 2022.

**Figure 1: MBARI's FY 2021 Federal Expenditures by Source**



Source: The chart data is available on MBARI's website (<https://www.mbari.org/wp-content/uploads/MBARI-2021-UG-audit-reporting-package-final-signed.pdf>). The photo is publicly available on MBARI's website: (<https://www.mbari.org/about/reports-financials/>).

## AUDIT SCOPE

This performance audit—conducted under Order No. 140D0422F0867—was designed to meet the objectives identified in the Objectives, Scope, and Methodology section of this report ([Appendix B](#)) and was conducted in accordance with *Generally Accepted Government Auditing Standards* (GAGAS) issued by the Comptroller General of the United States.

The objectives of this performance audit included evaluating MBARI's award management and oversight capabilities as they relate to the Mid-scale RI-2 award and determining whether MBARI complied with relevant NSF RI-2 award requirements, such as developing a Project Execution Plan (PEP). This audit also involved determining if costs MBARI claimed through NSF's Award Cash Management Service (ACM\$) from the award's inception date through September 30, 2022, were **allocable, allowable, reasonable**, and in compliance with NSF award terms and conditions and applicable federal financial assistance requirements. [Appendix B](#) provides detailed information regarding the audit objectives, scope, and methodology used for this engagement.

As illustrated in Figure 2, MBARI provided general ledger data to support the \$9.25 million in expenses it claimed on NSF Award No. [REDACTED] from the award's inception date through September 30, 2022.

**Figure 2: Costs MBARI Charged to NSF Award No. [REDACTED]**



Source: Auditor analysis of accounting data MBARI provided, illustrating the total costs (\$9,253,097) by expense type, using financial information to support costs incurred on NSF Award No. [REDACTED] during the audit period. Please note that “Other Direct Costs” in this table includes participant support costs, materials and supplies, travel, and other direct costs.

We judgmentally selected 49 transactions totaling \$1,773,717<sup>4</sup> (see Table 1) and evaluated supporting documentation to determine whether the costs claimed on NSF Award No. [REDACTED] were allocable, allowable, and reasonable, and whether they were in conformity with NSF award terms and conditions, organizational policies, and applicable federal financial assistance requirements.

**Table 1: Summary of Selected Transactions**

Budget Category	Transaction Count	Expense Amount <sup>5</sup>
Subawards	5	\$1,449,361
Equipment	19	231,629
Consultant Services	4	51,546
Personnel	10	17,875
Materials and Supplies	5	11,892
Participant Support	4	8,777
Travel	2	2,637
<b>Total</b>	<b>49</b>	<b>\$1,773,717</b>

Source: Auditor summary of selected transactions.

We also performed non-transaction-based testing to determine whether the Mid-scale RI-2 PEP MBARI submitted for this award covered all required components and whether MBARI

<sup>4</sup> The \$1,773,717 represents the total value of the 49 transactions selected for transaction-based testing. It does not represent the dollar base of the total costs reviewed during the audit.

<sup>5</sup> The expense amounts reported represent the total dollar value of the transactions selected for our sample; they do not include the total **fringe benefits** or **indirect costs** applied to the sampled transactions. However, we tested the fringe benefits and indirect costs for **allowability**.

appropriately estimated the full lifecycle cost for the project in a manner consistent with relevant NSF program guidance.

## AUDIT RESULTS

We questioned \$2,891 in costs MBARI charged to NSF Award No. [REDACTED]. We also identified exceptions related to MBARI’s programmatic and financial reporting on the NSF award that did not result in **questioned costs**, but did result in non-compliance with federal, NSF, and/or MBARI policies and procedures. See Table 2 for a summary of questioned costs by finding area, **Appendix C** for a summary of questioned costs by NSF award, and **Appendix D** for a summary of all recommendations.

**Table 2: Summary of Questioned Costs by Finding Area**

Finding Description	Questioned Costs
Inappropriately Allocated Expenses	\$2,891
Non-Compliance with MBARI’s Purchasing Policy	-
Non-Compliance with Mid-scale Reporting Policy	-
<b>Total</b>	<b><u>\$2,891</u></b>

Source: Auditor summary of findings identified.

We made five recommendations for NSF’s Director of the Division of Institution and Award Support related to resolving the \$2,891 in questioned costs and ensuring MBARI strengthens its administrative and management policies and procedures for monitoring federal funds and administering its Mid-scale RI-2 award.

We also identified two areas where MBARI could consider improving its controls to ensure future compliance with the RI-2 Program and its internal policy requirements and made two suggestions related to **areas for improvement** for MBARI’s consideration.

We communicated the results of our audit and the related findings, areas for improvement, recommendations, and considerations to MBARI and NSF OIG. We have included MBARI’s response to this report in its entirety in **Appendix A**.

### FINDING 1: INAPPROPRIATELY ALLOCATED EXPENSES

MBARI did not always allocate expenses to NSF Award No. [REDACTED] based on the relative benefits the award received, as required by federal regulations<sup>6</sup> and NSF **Proposal and**

<sup>6</sup> According to 2 Code of Federal Regulations (CFR) 200, Section §200.405, *Allocable costs*, if a cost benefits two or more projects or activities in proportions that can be determined without undue effort or cost, the cost must be allocated to the projects based on the proportional benefit. Further, per 2 CFR 200, Section §200.403(a), *Factors affecting allowability of costs*, except where otherwise authorized by statute, costs must meet the following general criteria in order to be allowable under federal awards: be necessary and reasonable for the performance of the federal award and be allocable thereto under these principles and be accorded consistent treatment.

**Award Policies and Procedures Guides** (PAPPGs).<sup>7</sup> As a result, MBARI inappropriately allocated a total of \$2,891 in expenses to the NSF award, as illustrated in Table 3.

**Table 3: Costs Not Appropriately Allocated Based on Relative Award Benefit**

Expense Date	Expense Type	Amount Charged to NSF Award	Inappropriately Allocated Amount	Notes
February 2022	Shipping Expenses	\$6,945	\$2,249	a
April 2022	Supply Expenses	7,704	642	b

Source: Auditor summary of identified exceptions.

- a) In February 2022, MBARI charged a portion of a shipping invoice to a purchase order (PO) it established to track shipping costs MBARI charged to NSF Award No. [REDACTED]. Although the amount of the sampled invoice MBARI charged to the PO was consistent with the amount identified as allocable to the NSF award, MBARI did not support how it determined what portion of the invoice was allocable to the NSF award. As the allocation methodology used was not supported—and as the cumulative \$6,945 in shipping costs MBARI had charged to this NSF award were greater than the \$4,696 the PO indicated should be charged—\$2,249 in shipping costs do not appear to have been appropriately charged to the NSF award.
- b) In April 2022, MBARI charged \$7,704 in supply costs to NSF Award No. [REDACTED] for the purchase of 48 [REDACTED] units. As the Principal Investigator (PI) stated that only 44 of the units would be used to support NSF Award No. [REDACTED] \$642 in supplies were inappropriately charged to the NSF award.<sup>8</sup>

### Conclusion

MBARI does not have adequate internal controls in place to ensure that it consistently allocates shipping and supply expenses to sponsored awards in a manner consistent with the methodology the purchasers documented on the invoice. We are therefore questioning \$2,891 of expenses inappropriately allocated to NSF Award No. [REDACTED] which MBARI has agreed to reimburse, as illustrated in Table 4.

**Table 4: Finding 1 Summary: Inappropriately Allocated Expenses**

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			MBARI Agreed to Reimburse
			Direct	Indirect	Total	
[REDACTED]	February 2022 Shipping Expenses	2022	\$2,249	\$0	\$2,249	\$2,249

<sup>7</sup> NSF PAPPG 20-1 and 22-1, Part II, Chapter X, Section A, *Basic Considerations*, states that expenditures under NSF cost reimbursement grants are governed by the federal cost principles and must conform to NSF policies where articulated in the applicable grant general terms and conditions, grant special provisions, and grantee internal policies.

<sup>8</sup> \$7,704 divided by 48 units = \$160.50 per unit \* 4 units (48-44) not allocable to the NSF award = \$642.

NSF Award No.	Description	Fiscal Year(s)	Questioned Costs			
			Direct	Indirect	Total	MBARI Agreed to Reimburse
██████████	April 2022 Supply Expenses	2022	642	-	642	642
<b>Total</b>			<b><u>\$2,891</u></b>	<b><u>\$0</u></b>	<b><u>\$2,891</u></b>	<b><u>\$2,891</u></b>

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 1.1 Direct MBARI to provide documentation supporting that it has repaid or otherwise credited the \$2,891 in questioned shipping and supply expenses for which it has agreed to reimburse NSF.
- 1.2 Direct MBARI to implement additional controls to ensure it allocates shipping and supply expenses consistent with applicable purchasing guidance or that it adequately documents how it determined the methodology used was consistent with the relative benefit received by the award.

**Monterey Bay Aquarium Research Institute Response:** MBARI agreed with the finding and noted that it will reimburse NSF for the questioned costs and improve its internal controls to ensure expenses are appropriately allocated in the future.

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

## FINDING 2: NON-COMPLIANCE WITH MBARI’S PURCHASING POLICY

MBARI did not always receive the Grants Office, Chief Financial Officer (CFO), or Chief Executive Officer (CEO) approvals required per its policy for purchases charged to NSF Award No. ██████████. The current iteration of MBARI’s written *Purchasing* policy<sup>9</sup> requires that a project manager (the PI for this award) and the Grants Office approve all grant purchases; that the CFO approve all purchases over \$10,000; and that the CEO approve all purchases over \$50,000. However, we identified six instances in which the approvals were not obtained consistent with MBARI’s current written *Purchasing* policy, as illustrated in Table 5.

**Table 5: Summary of Purchasing Approvals Required and Received**

Expense Date	PO Amount	Approvals Required	Approvals Received
September 2021	\$2,150	PI and Grants Office	PI and Accounting
September 2021	6,665	PI and Grants Office	PI and Accounting

<sup>9</sup> MBARI’s *Purchasing* policy, Section 4.4, *Approvals*, states that the project manager and Grants Office must approve all grant purchases; the CFO must approve all purchases over \$10,000; and that the CEO must approve all purchases over \$50,000.

Expense Date	PO Amount	Approvals Required	Approvals Received
October 2021	3,617	PI and Grants Office	PI and Accounting
March 2022	18,527	PI, Grants Office, and CFO	PI and Grants Office
March 2022	54,433	PI, Grants Office, CFO, and CEO	PI, Grants Office, and CFO
March 2022	72,213	PI, Grants Office, CFO, and CEO	PI, Grants Office, and CFO

Source: Auditor summary of instances of non-compliance with approval requirements.

## Conclusion

The current purchasing approvals required in MBARI’s purchasing system do not ensure compliance with its purchasing policies. Specifically, regarding the lack of Grants Office approval, MBARI noted that because its Grants Office only consists of one individual, its purchasing system automatically routes required Grants Office approvals to the Accounting Office when that individual is unavailable. Regarding the lack of CFO and CEO approvals, MBARI noted that because its purchasing system does not base its approval routing process on the PO amount, CFO or CEO approvals would only be requested if the amount charged to a single project or account within a PO was above \$10,000 or \$50,000, respectively.

Because these instances of non-compliance did not directly result in MBARI charging unallowable costs to the NSF award, we are not questioning any costs related to these exceptions. However, we are noting a compliance finding related to the six instances in which MBARI did not comply with its documented *Purchasing* policy, as illustrated within Table 6.

**Table 6: Finding 2 Summary: Non-Compliance with MBARI Policies**

NSF Award No.	Compliance Exception Identified	Fiscal Year(s)
	Grants Office Approval Not Received	2021
	Grants Office Approval Not Received	2021
	Grants Office Approval Not Received	2021
	CFO Approval Not Received	2022
	CEO Approval Not Received	2022
	CEO Approval Not Received	2022

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 2.1 Direct MBARI to update its purchasing policies to reflect how Grants Office approval is delegated when Grants Office staff is not available.
- 2.2 Direct MBARI to strengthen the controls within its purchasing system to ensure that Chief Financial Officer and Chief Executive Officer approvals are required based on

the amount of the purchase order rather than based on the amounts charged to a single project or account.

**Monterey Bay Aquarium Research Institute Response:** MBARI did not indicate whether it agreed or disagreed with this finding but noted that it will update its *Purchasing* policy to reflect its current unwritten approval process for when Grants Office approvals are not available, which it noted was followed when these costs were charged to the NSF award.

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

**FINDING 3: NON-COMPLIANCE WITH MID-SCALE REPORTING POLICY**

MBARI did not submit its annual project reports for NSF Award No. [REDACTED] at least 90 days prior to the end of the budget period, as required per the NSF RI-2 Program Solicitation.<sup>10</sup> Specifically, MBARI did not submit two annual reports due within our audit **period of performance** (POP) by the report due dates, as illustrated in Table 7.

**Table 7: Annual Mid-scale RI-2 Reports Not Submitted Timely**

Reporting Period	Report Due Date	Report Submission Date	Days Late
November 1, 2020 – October 30, 2021	August 2, 2021	October 31, 2021	90 Days
November 1, 2021 – October 30, 2022	August 2, 2022	October 31, 2022	90 Days

Source: Auditor summary of identified exceptions.

**Conclusion**

MBARI established its annual reporting dates based on due dates provided via communication with NSF rather than based on the due dates established within the NSF Program Solicitation applicable to the NSF award.

Because these instances of non-compliance did not directly result in MBARI charging unallowable costs to the NSF award, we are not questioning any costs related to these exceptions. However, we are noting compliance exceptions for the two instances in which MBARI did not submit the annual reports by the due dates required per the NSF Program Solicitation, as illustrated in Table 8.

**Table 8: Finding 3 Summary: Non-Compliance with Mid-scale Reporting Policy**

NSF Award No.	Compliance Exception Identified	Fiscal Year(s)
[REDACTED]	2020 – 2021 RI-2 Annual Report Not Submitted Timely	2021
[REDACTED]	2021 – 2022 RI-2 Annual Report Not Submitted Timely	2022

Source: Auditor summary of identified exceptions.

<sup>10</sup> Per Mid-scale RI-2 Program Solicitation (NSF 19-542), Section VII, C. *Reporting Requirements*, the PI must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period.

## Recommendations

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

- 3.1. Direct MBARI to implement controls that ensure Mid-scale Program annual reports are submitted on a timely basis, as required per the Research Infrastructure 2 Program Solicitation.

**Monterey Bay Aquarium Research Institute Response:** MBARI did not state whether it agreed or disagreed with the finding but did note that it disagreed that a control issue caused the reported non-compliance. Specifically, MBARI stated that while it appropriately communicated and worked with NSF on the timeliness of the annual reports and reporting requirements, it will improve the timeliness of the reports per the Program Solicitation requirements going forward.

**Auditors' Additional Comments:** Although our position regarding this finding has not changed, we did update the conclusion of this finding to more accurately reflect the cause MBARI identified for the instances of non-compliance.

### **AREA FOR IMPROVEMENT 1: EQUIPMENT TAGGING**

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Although MBARI's current *Fixed Assets* policy<sup>11</sup> notes that **equipment** owned by the federal government must be tagged, MBARI noted that it no longer places physical tags on equipment. Specifically, MBARI stated that it no longer places physical tags on its equipment for practicality purposes, as outlined within the *Equipment and Real Property* control narrative of MBARI's *Internal Controls External Funds* document,<sup>12</sup> which is not consistent with MBARI's current *Fixed Assets* policy.

## Conclusion

Because MBARI accounted for its equipment in a manner consistent with its internal control procedures, we did not identify any exceptions related to the lack of physical asset tags. However, because the current iteration of MBARI's *Fixed Assets* policy does not accurately reflect its current equipment tagging practices, we are noting an area for improvement.

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<sup>11</sup> MBARI's *Fixed Assets* policy states that all federally-funded equipment, where the government holds title, must be tagged, clearly identifying the equipment as federally-owned.

<sup>12</sup> Tab F within MBARI's *Internal Controls External Funds* document contains MBARI's *Equipment and Real Property* control narrative which states that property tags are not placed on equipment for practicality purposes.

## Consideration

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

- Directing MBARI to update its *Fixed Assets* policy to accurately reflect MBARI's equipment tagging procedures.

### **AREA FOR IMPROVEMENT 2: PEP COMPLIANCE**

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The PEP MBARI submitted—and updated—for NSF Award No. [REDACTED] does not contain all of the information recommended per NSF's *Major Facilities Guide* (MFG) or *Research Infrastructure Guide* (RIG),<sup>13</sup> which replaced the MFG in December 2021. Specifically—although both guides state that the 38 subtopics identified in Table 3.4.1 for the minimum PEP components required for Mid-scale RI-2 projects<sup>14</sup> should be included in the PEP—MBARI's PEP did not include all recommended elements or provide justification as to why the elements were not applicable or included.

#### ***MBARI's PEP Did Not Include All Recommended Elements***

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MBARI's PEP did not include 1 of the 38 recommended subtopics. Specifically:

- MBARI's PEP did not include a **Segregation of Funding Plan [15.4]**.<sup>15</sup>

#### ***MBARI's PEP Was Not Sufficiently Detailed***

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The information included within MBARI's PEP for 5 of the 38 recommended subtopics did not include descriptions that were consistent with the requirements outlined within the MFG or RIG. Specifically:

- **Partnerships [2.3]**. This section did not include plans, agreements, and commitments for interagency and international partnerships.<sup>16</sup>
- **Community Relations and Outreach [2.5]**. This section did not include “a description of scientific and educational outreach programs.”<sup>17</sup>
- **Cost Book, Cost Model Data Set, and Basis of Estimate [4.7]**. This section did not include a formal cost book, nor did it support creation of a cost model data set to be

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<sup>13</sup> NSF's MFG and RIG contain NSF policies on the planning and management of major facilities and Mid-scale projects throughout their full lifecycle.

<sup>14</sup> Per the *Guidance for Mid-Scale Research Infrastructure Projects* section of the MFG and RIG, *Programmatic Deliverables*, the following list provides the minimum required components of the PEP for a Mid-scale project: 1. Introduction; 2. Organization; 4. Construction Project Definition; 6. Risk and Opportunity Management; 8. Configuration Control; 9. Acquisitions; 10. Project Management Controls; 12. Cyber-Infrastructure; and 13. Commissioning, including Concept of Operations.

<sup>15</sup> Per Table 3.4.1 in the MFG and RIG, subtopic 15.4, *Commissioning*, the PEP should include financial accounting procedures for the recipient to properly expense the activities between construction and operations funding per the plans above.

<sup>16</sup> Per Table 3.4.1 in the MFG and RIG, subtopic 2.3, *Partnerships*, the PEP should include the role of the interagency or international partners in future planning and development and/or construction.

<sup>17</sup> Per Table 3.4.1 in the MFG and RIG, subtopic 2.5, *Community Relations and Outreach*, the PEP should include community relations and outreach plans for building and maintaining effective relationships with the broader research community that will eventually utilize the facility to conduct research and with the public, including a description of scientific and educational outreach programs.

used as input to software tools or project reports, as described in this subsection's requirements. Further, MBARI's basis of cost estimate was not developed in accordance with the best practices outlined in the Government Accountability Office (GAO) *Cost Estimating and Assessment Guide*, as recommended.<sup>18</sup>

- **Schedule Contingency [4.10].** This section does not include the method of calculating contingency nor the confidence level for meeting the project end date described in this subsection's requirements.<sup>19</sup>
- **Financial and Business Controls [10.3].** This section does not include the description of financial and business processes and controls described in this subsection's requirements.<sup>20</sup>

## Conclusion

Because the NSF MFG and RIG note only that these items should be included, and because NSF approved MBARI's PEP, we did not note any findings related to the missing PEP elements. However, because these guides state that PEPs should ideally either contain or reference all project-related documents and be the standalone source explaining how and why the project meets all requirements, we believe MBARI could improve its PEP by including all information recommended per the NSF MFG and RIG.

## Consideration

We suggest that NSF's Office Head of the Research Infrastructure Office consider:

- Directing MBARI to update its Project Execution Plan to include all recommended elements and/or justifications regarding why those elements are not applicable.

COTTON & COMPANY ASSURANCE AND ADVISORY, LLC



Megan Mesko, CPA, CFE  
Partner  
July 5, 2023

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<sup>18</sup> Per the *Guidance for Mid-Scale Research Infrastructure Projects* section of the MFG and RIG, budgets should be supported by well-documented basis of estimates developed in accordance with the best practices and 12 steps outlined in the GAO *Cost Estimating and Assessment Guide* to meet the 4 characteristics of a high-quality estimate: well-documented, comprehensive, accurate, and credible.

<sup>19</sup> Per Table 3.4.1 in the MFG and RIG, subtopic 4.10, *Schedule Contingency*, the PEP should include schedule contingency amounts and project end date with contingency, and should state the method for calculating contingency, including the confidence level for meeting the project end date.

<sup>20</sup> Per Table 3.4.1 in the MFG and RIG, subtopic 10.3, *Financial and Business Controls*, the PEP should include a description of financial and business processes and controls.

## **APPENDIX A: MBARI'S RESPONSE**

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MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

June 1, 2023

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

Attention: Megan Mesko, CPA, CFE

Dear Ms. Mesko,

The Monterey Bay Aquarium Research Institute (MBARI) is providing this memorandum in response to the three audit findings identified by Cotton & Company. MBARI appreciates working with you through this process and looks forward to working with the National Science Foundation in resolving the identified findings. MBARI's response to each finding is identified below.

*Finding 1: Inappropriately Allocated Expenses*

MBARI agrees and will reimburse \$2,891 in questioned shipping and supply expenses to the NSF award. Additionally, MBARI will implement and document the necessary internal controls to ensure proper allocation of shipping and supply expenses.

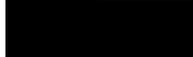
*Finding 2: Non-Compliance with MBARI's Purchasing Policy*

MBARI will update its purchasing policy to ensure the policy correctly follows MBARI's processes and procedures. The identified items were reviewed and correctly approved, however, MBARI's policy had not been updated to follow the current process.

*Finding 3: Non-Compliance with Mid-Scale Reporting Policy*

MBARI appropriately communicated, and worked with NSF on the timeliness and the reporting requirements of the award. MBARI disagrees that this was a control issue, but going forward will ensure that all required reports are submitted on a timely basis, as required per the Research Infrastructure-2 program solicitation.

Sincerely,



Basilio Martinez  
Chief Financial Officer

## **APPENDIX B: OBJECTIVES, SCOPE, AND METHODOLOGY**

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## OBJECTIVES

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The NSF OIG Office of Audits engaged Cotton & Company Assurance and Advisory, LLC (herein referred to as “we”), to conduct an audit of all the costs the Monterey Bay Aquarium Research Institute (MBARI) had claimed on NSF Award No. [REDACTED] as of September 30, 2022. The objectives of the audit included:

- Evaluating MBARI’s award management environment for the capability to adhere to award-specific terms and conditions, as well as the requirements of the *Uniform Guidance* and general award terms and conditions.
- Determining if the costs claimed on the award were allocable, allowable, reasonable, and in conformance with NSF award terms and conditions and applicable federal financial assistance requirements.
- Determining whether MBARI complied with NSF’s Research Infrastructure (RI)-2 Program Solicitation (NSF 19-542) and other applicable Mid-scale program requirements within NSF’s *Major Facilities Guide* (MFG) (NSF 19-68) and *Research Infrastructure Guide* (RIG) (21-107), such as developing a Project Execution Plan (PEP).

## SCOPE

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The audit population included approximately \$9.25 million MBARI claimed in NSF’s Award Cash Management Service (ACM\$) on NSF Award No. [REDACTED] from the award’s inception date through September 30, 2022.

## METHODOLOGY

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

- Assessing the reliability of the general ledger data MBARI provided by comparing the costs charged to NSF awards per MBARI’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 MBARI and NSF OIG. NSF OIG provided award data that MBARI reported through ACM\$ during our audit period.
    - We assessed the reliability of the general ledger data MBARI provided by: (1) comparing the costs charged to NSF awards per MBARI’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests MBARI submitted to NSF during the audit’s period of performance (POP); and (2) reviewing the parameters MBARI used to extract transaction data from its accounting system. As we did not identify any discrepancies in the data provided, we found

MBARI's computer-processed data to be sufficiently reliable for the purposes of the audit.

- 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) 2021 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.
  - MBARI provided detailed transaction-level data to support \$9,253,097 in costs charged to this NSF award during the audit period, which was \$1,606 more than the \$9,251,491 it claimed in ACM\$ during the audit period. This data resulted in a total audit universe of \$9,253,097 in expenses charged to NSF Award No. [REDACTED]
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information MBARI and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, Mid-scale RI-2 award, and MBARI-specific policies and procedures surrounding costs budgeted for—or charged to—NSF awards and identifying the controls in place to ensure that costs charged to the Mid-scale RI-2 award were reasonable, allocable, and allowable.
  - In planning and performing this audit, we considered MBARI's internal controls, within the audit's scope, solely to understand the directives or policies and procedures MBARI has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, RI Program requirements, and MBARI policies.
- Designing and executing tests that allowed our team to determine whether the Mid-scale RI-2 PEP covered all required components and whether MBARI appropriately estimated the full lifecycle cost for the project consistent with NSF's MFG (NSF 19-68), RIG (21-107), and RI-2 Program Solicitation (NSF 19-542) applicable to the sampled NSF award.
- Providing MBARI with a list of 49 transactions we selected based on the results of our data analytics and requesting that MBARI provide documentation to support each transaction.
- Reviewing the supporting documentation MBARI provided and requesting additional documentation as necessary to ensure we obtained sufficient,

appropriate evidence to assess the allowability of each sampled transaction under relevant federal,<sup>21</sup> NSF,<sup>22</sup> and MBARI policies.<sup>23</sup>

- Holding virtual interviews and walkthroughs with MBARI in January 2023 to discuss payroll (including effort reporting), fringe benefits, travel, participant support costs, procurement, other direct costs (e.g., patent, relocation, recruiting, interest, advertising/public relations, entertainment, fundraising, lobbying, selling/marketing, and training costs), and other general policies in place to ensure compliance with relevant NSF terms and conditions, grant close-out procedures, subawards, ACM\$ processing, indirect costs, other general policies in place to ensure compliance with relevant NSF terms and conditions (e.g., programmatic reporting, supplemental funding requests, changes in scope, cost transfers, record retention, whistle-blower information, research misconduct, and conflict of interest policies).

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 MBARI personnel to ensure that it was aware of each of our findings and that it did not have additional documentation to support the questioned costs.

We conducted this performance audit in accordance with *Generally Accepted Government Auditing Standards* (GAGAS) issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>21</sup> We assessed MBARI's compliance with 2 Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; 2 CFR Part 215, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations; and 2 CFR Part 230, Cost Principles for Non-Profit Organizations (Office of Management and Budget Circular A-122), as appropriate.

<sup>22</sup> We assessed MBARI's compliance with NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 20-1 and 22-1, NSF's MFG (NSF 19-68) and Mid-scale RI-2 Program Solicitation (NSF 19-542), and with NSF award-specific terms and conditions, as appropriate.

<sup>23</sup> We assessed MBARI's compliance with its internal policies and procedures surrounding costs budgeted for or charged to NSF awards.

## **APPENDIX C: SUMMARY OF QUESTIONED COSTS**

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

Finding	Description	Questioned Costs		Total
		<i>Unsupported</i>	<i>Unallowable</i>	
1	Inappropriately Allocated Expenses	\$0	\$2,891	\$2,891
2	Non-Compliance with MBARI's Purchasing Policy	-	-	-
3	Non-Compliance with Mid-scale Reporting Policy	-	-	-
<b>Total</b>		<b><u>\$0</u></b>	<b><u>\$2,891</u></b>	<b><u>\$2,891</u></b>

Source: Auditor summary of questioned costs by finding.

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

<b>NSF Award No.</b>	<b>No. of Exceptions</b>	<b>Questioned Direct Costs</b>	<b>Questioned Indirect Costs</b>	<b>Questioned Total</b>	<b>MBARI Agreed to Reimburse</b>
	8	\$2,891	\$0	\$2,891	\$0
<b>Total</b>	<b>8</b>	<b>\$2,891</b>	<b>\$0</b>	<b>\$2,891</b>	<b>\$0</b>

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

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

Finding No.	NSF Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	MBARI Agreed to Reimburse
1) Inappropriately Allocated Expenses	██████	February 2022 Shipping Expenses	\$2,249	\$0	\$2,249	\$0
	██████	April 2022 Supply Expenses	642	-	642	-
2) Non-Compliance with MBARI's Purchasing Policy	██████	Grants Office Approval Not Received	-	-	-	-
		Grants Office Approval Not Received	-	-	-	-
		Grants Office Approval Not Received	-	-	-	-
		CFO Approval Not Received	-	-	-	-
		CEO Approval Not Received	-	-	-	-
	██████	CEO Approval Not Received	-	-	-	-
3) Non-Compliance with Mid-scale Reporting Policy	██████	2020 – 2021 RI-2 Annual Report Not Submitted Timely	-	-	-	-
	██████	2021 – 2022 RI-2 Annual Report Not Submitted Timely	-	-	-	-
<b>Total</b>			<b><u>\$2,891</u></b>	<b><u>\$0</u></b>	<b><u>\$2,891</u></b>	<b><u>0</u></b>

Source: Auditor summary of identified exceptions.

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

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

- 1.1 Direct MBARI to provide documentation supporting that it has repaid or otherwise credited the \$2,891 in questioned shipping and supply expenses for which it has agreed to reimburse NSF.
- 1.2 Direct MBARI to implement additional controls to ensure it allocates shipping and supply expenses consistent with applicable purchasing guidance or that it adequately documents how it determined the methodology used was consistent with the relative benefit received by the award.
- 2.1 Direct MBARI to update its purchasing policies to reflect how Grants Office approval is delegated when Grants Office staff is not available.
- 2.2 Direct MBARI to strengthen the controls within its purchasing system to ensure that Chief Financial Officer and Chief Executive Officer approvals are required based on the amount of the purchase order rather than based on the amounts charged to a single project or account.
- 3.1 Direct MBARI to implement controls that ensure Mid-scale Program annual reports are submitted on a timely basis, as required per the Research Infrastructure 2 Program Solicitation.

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

- Directing MBARI to update its *Fixed Assets* policy to accurately reflect MBARI's equipment tagging procedures.

Additionally, we suggest that NSF's Office Head of the Research Infrastructure Office consider:

- Directing MBARI to update its Project Execution Plan to include all recommended elements and/or justifications regarding why those elements are not applicable.

**APPENDIX E: GLOSSARY**

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

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

**Return to the term's initial use.**

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

**Return to the term's initial use.**

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

**Return to the term's initial use.**

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

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

**Return to the term's initial use.**

**Area for Improvement.** For the purposes of this report, an area for improvement represents a condition that does not constitute the grantee's non-compliance but warrants the attention of the grantee and NSF management.

**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. (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.](#)

**Mid-scale RI-1.** This program supports either the design or implementation of unique and compelling RI projects. Mid-scale implementation projects may include any combination of equipment, instrumentation, cyberinfrastructure, broadly used large scale datasets and the personnel needed to successfully commission the project. The total cost of current Mid-scale RI-1 projects range from \$400,000 to \$20 million. (NSF 22-637).

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

**Mid-scale RI-2.** This program emphasizes projects that have strong scientific merit, respond to an identified need of the research community, demonstrate technical and managerial readiness for implementation, include a well-developed plan for student training in the design and implementation of Mid-scale research infrastructure, and involve a diverse workforce in Mid-scale facility development, and/or associated data management. The total cost of current Mid-scale RI-2 projects range from \$20 million to \$100 million. (NSF 23-570).

[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** means a cost that is questioned by the auditor 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 200.1).

[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.](#)

**Research Infrastructure (RI).** NSF defines RI as any combination of facilities, equipment, instrumentation, or computational hardware or software, and the necessary human capital in support of the same. (NSF 19-68 and 21-107, Section 1.4.1).

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

**Unsupported Cost.** A cost that is questioned because the auditors found that, at the time of the audit, such cost is not supported by adequate documentation. Unsupported Cost is a subset of and included in **Questioned Costs**. (2 CFR 200.1).

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



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### National Defense Authorization Act (NDAA) General Notification

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

If you find your business entity or non-governmental organization was specifically identified in this report and wish to submit comments under the above-referenced statute, please send your response, within 30 days of the publication date of this report, to **[OIGPL117-263@nsf.gov](mailto:OIGPL117-263@nsf.gov)**, no later than September 8, 2023. We request that comments be in .pdf format, be free from any proprietary or otherwise sensitive information, and not exceed 2 pages. Please note, a response that does not satisfy the purpose set forth by the statute will not be attached to the final report.