

# Performance Audit of Incurred Costs – University of California, Merced

REPORT PREPARED BY COTTON & COMPANY

NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL

April 15, 2022  
OIG 22-1-003





## AT A GLANCE

Performance Audit of Incurred Costs – University of California, Merced  
Report No. OIG 22-1-003  
April 15, 2022

### AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company (C&C) to conduct a performance audit of incurred costs at the University of California, Merced (UCM) for the period September 1, 2017, to August 31, 2020. The auditors tested \$724,833 of the approximately \$22.3 million of costs claimed to NSF. The objective of the audit was to evaluate UCM's award management environment to determine whether any further audit work was warranted, and to perform additional audit work, as determined appropriate. A full description of the audit's objective, scope, and methodology is attached to the report as Appendix B.

### AUDIT RESULTS

The report highlights concerns about UCM's compliance with certain federal, NSF, and/or UCM regulations and policies when allocating expenses to NSF awards. The auditors questioned \$226,652 of costs claimed by UCM during the audit period. Specifically, the auditors found \$116,151 of unallowable expenses; \$71,463 of inappropriately allocated expenses; \$21,064 of ACMS\$ drawdowns that exceeded expenses; \$17,492 of inadequately supported expenses; and \$482 of inappropriately applied indirect costs. The auditors also identified three compliance-related findings for which there were no questioned costs: payroll subledger expenses that exceeded general ledger payroll expenses, inappropriately budgeted participant support costs, and non-compliance with UCM policies. C&C is responsible for the attached report and the conclusions expressed in this report. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

### RECOMMENDATIONS

The auditors included 8 findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure UCM strengthens administrative and management controls.

### AUDITEE RESPONSE

UCM expressed varying levels of agreement and disagreement with the findings throughout the audit report, agreeing to reimburse NSF for \$156,775 in questioned costs, but disagreeing with the remaining \$69,877. UCM's response is attached in its entirety to the report 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:** April 15, 2022

**TO:** Dale Bell  
Director  
Division of Institution and Award Support

Jamie French  
Director  
Division of Grants and Agreements

**FROM:** [REDACTED]  
Mark Bell  
Assistant Inspector General  
Office of Audits

**SUBJECT:** Audit Report No. 22-1-003, University of California, Merced

This memorandum transmits the Cotton & Company (C&C) report for the audit of costs charged by the University of California, Merced (UCM) to its sponsored agreements with the National Science Foundation during the period September 1, 2017, to August 31, 2020. The audit encompassed \$724,833 of the approximately \$22.3 million claimed to NSF during the period. The objective of the audit was to evaluate UCM's award management environment to determine whether any further audit work was warranted, and to perform additional audit work, as determined appropriate. 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 Office of Management and Budget Circular A-50, to develop a mutually agreeable resolution of the audit findings. The findings should not be closed until NSF determines that all recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

**OIG Oversight of the Audit**

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

- reviewed C&C's approach and planning of the audit;
- evaluated the qualifications and independence of the auditors;

- monitored the progress of the audit at key points;
- coordinated periodic meetings with C&C, as necessary, to discuss audit progress, findings, and recommendations;
- reviewed the audit report prepared by C&C; and
- coordinated issuance of the audit report.

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

#### Attachment

cc:

Anneila Sargent  
Ellen Ochoa  
Victor McCrary  
John Veysey  
Ann Bushmiller  
Christina Sarris

Karen Marrongelle  
Judy Hayden  
Kim Silverman  
Teresa Grancorvitz  
Alex Wynnyk  
Rochelle Ray

Charlotte Grant-Cobb  
Allison Lerner  
Lisa Vonder Haar  
Ken Chason  
Dan Buchtel  
Ken Lish

Jae Kim  
Jennifer Kendrick  
Louise Nelson  
Karen Scott

## EXECUTIVE SUMMARY

The Cotton & Company audit team determined that the University of California, Merced (UCM) needs improved oversight of the allocation and documentation of expenses charged to NSF awards to ensure costs claimed are reasonable, allocable, and allowable in accordance with all federal and NSF regulations, NSF award terms and conditions, and UCM policies. Specifically, the audit report includes eight findings and a total of \$226,652 in questioned costs.

### AUDIT OBJECTIVES

The National Science Foundation Office of Inspector General engaged Cotton & Company to conduct a performance audit of costs that UCM incurred for the period from September 1, 2017, to August 31, 2020. The audit objectives included evaluating UCM's award management environment to determine whether any further audit work was warranted and performing additional audit work, as determined appropriate. We have attached a full description of the audit's objectives, scope, and methodology as [Appendix B](#).

### AUDIT CRITERIA

The audit team assessed UCM's compliance with relevant federal regulations (i.e., 2 Code of Federal Regulations [CFR] 200 and 2 CFR 220); NSF Proposal and Award Policies and Procedures Guides (PAPPGs) 11-1, 13-1, 14-1, 15-1, 16-1, 17-1, 18-1, and 19-1; NSF award terms and conditions; and UCM 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 \$226,652 of direct and indirect costs that UCM inappropriately claimed during the audit period, including:

- \$116,151 of unallowable expenses
- \$71,463 of inappropriately allocated expenses
- \$21,064 of ACM\$ drawdowns that exceeded expenses
- \$17,492 of inadequately supported expenses
- \$482 of inappropriately applied indirect costs

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

- Payroll subledger expenses that exceeded general ledger payroll expenses
- Inappropriately budgeted participant support costs
- Non-compliance with UCM policies

### RECOMMENDATIONS

The audit report includes 33 recommendations for NSF's Director of the Division of Institution and Award Support related to resolving the \$226,652 in questioned costs and ensuring UCM strengthens its award management environment, as summarized in [Appendix D](#).

### AUDITEE RESPONSE

UCM expressed varying levels of agreement and disagreement with the findings throughout the audit report. It agreed to reimburse NSF for \$156,775 in questioned costs but disagreed with the remaining \$69,877. UCM's response is attached in its entirety to the report as [Appendix A](#).

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## Abbreviations

<b>ACM\$</b>	Award Cash Management Service
<b>CFR</b>	Code of Federal Regulations
<b>GL</b>	General Ledger
<b>MTDC</b>	Modified Total Direct Costs
<b>NICRA</b>	Negotiated Indirect Cost Rate Agreement
<b>NSF</b>	National Science Foundation
<b>OIG</b>	Office of Inspector General
<b>PAPPG</b>	Proposal and Award Policies and Procedures Guide
<b>PI</b>	Principal Investigator
<b>POP</b>	Period of Performance
<b>UC</b>	University of California
<b>UCOP</b>	University of California Office of the President
<b>UCM</b>	University of California, Merced

## 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.

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 (referred to as “we”) to conduct a performance audit of costs incurred by the University of California, Merced (UCM). UCM is a public research university located in Merced, California. In fiscal year (FY) 2020-2021, UCM reported more than \$44 million in grants and contracts revenue, with \$28.8 million received from federal sources—including NSF—as illustrated in Figure 1.

**Figure 1: UCM’s FY 2020-2021 Grants and Contracts Revenue**



Source: The chart data is available on the University of California Office of the President (UCOP) Financial Accounting website (<https://finreports.universityofcalifornia.edu/index.php?file=/20-21/annual-financial-report-2021.pdf>). The photo of UCM’s campus is publicly available on UCM’s website (<https://www.ucmerced.edu/ucmerced-locations>).

## AUDIT SCOPE

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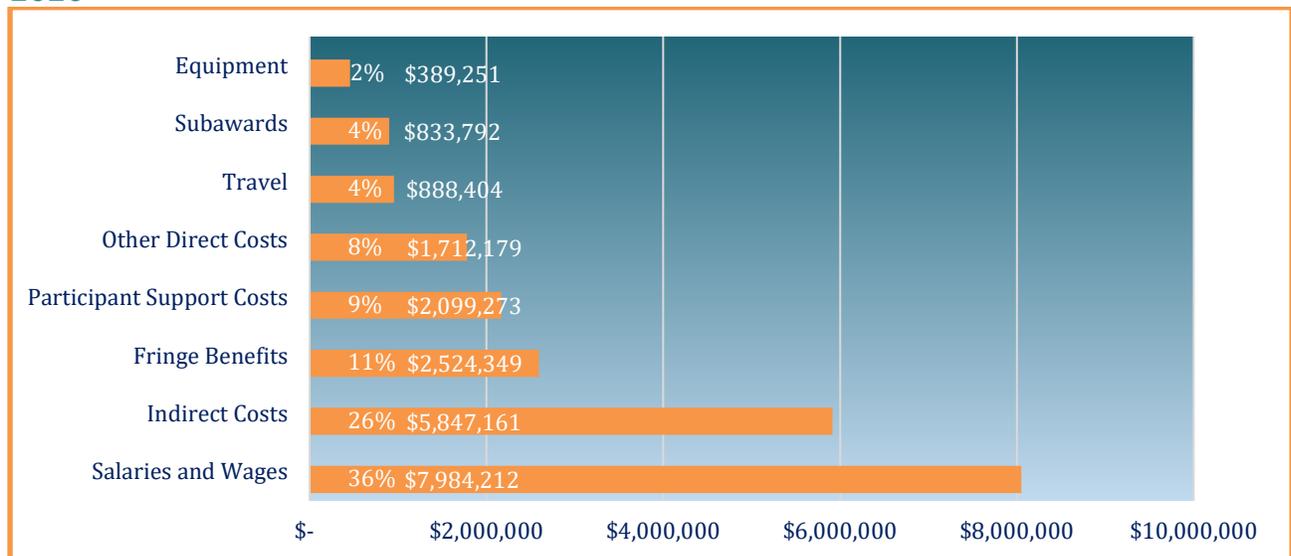
This performance audit—conducted under Order No. 140D0420F0594—was designed to meet the objectives identified in the Objectives, Scope, and Methodology section of this

report ([Appendix B](#)) and was conducted in accordance with *Generally Accepted Government Auditing Standards*, issued by the Comptroller General of the United States.

The objectives of this performance audit were to evaluate UCM’s award management environment, determine whether any further audit work was warranted, and perform any additional audit work, as determined appropriate. [Appendix B](#) provides detailed information regarding the two phases in which we conducted this engagement: the Audit Survey Phase and the Expanded Testing Audit Phase.

As illustrated in Figure 2, UCM provided general ledger (GL) data that supported the \$22.3 million in expenses it claimed on 117 NSF awards during our audit [period of performance](#) (POP) of September 1, 2017, to August 31, 2020.

**Figure 2: Costs Claimed on NSF Awards from September 1, 2017, through August 31, 2020<sup>1</sup>**



Source: Auditor analysis of accounting data provided by UCM, illustrating total costs (\$22,278,621) by expense type, using financial information to support costs incurred on NSF awards during the audit period. Please note that the “Other Direct Costs” in this table include computer services, [consultant services](#), [materials and supplies](#), [publications](#), and other [direct costs](#).

We judgmentally selected 95 transactions totaling \$724,833<sup>2</sup> (see Table 1) and evaluated supporting documentation to determine whether the costs claimed on the NSF awards were [allocable](#), [allowable](#), and [reasonable](#), and whether they were in conformity with

<sup>1</sup> The GL documentation that UCM initially provided to support its claimed expenses did not support the full \$22,418,375 in award-related expenses reported in NSF’s Award Cash Management Service (ACM\$). However, in response to a potential audit finding, UCM was able to provide additional GL documentation to support these costs. Refer to [Finding 3 ACM\\$ Drawdowns That Exceeded Expenses](#) and the [Objectives, Scope, and Methodology](#) section of this report for additional details.

<sup>2</sup> The \$724,833 represents the total value of the 95 transactions selected for transaction-based testing. It does not represent the dollar base of the total costs reviewed during the audit.

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>3</sup>
Participant Support Costs	5	\$164,225
Equipment	14	124,017
Salaries and Wages	18	119,203
Subawards	5	88,417
Other Direct Costs	18	74,688
Indirect Costs	3	66,457
Travel	25	47,078
Consultant Services	3	21,091
Materials and Supplies	1	9,478
Computer Services	1	6,317
Publication	2	3,862
<b>Total</b>	<b><u>95</u></b>	<b><u>\$724,833</u></b>

Source: Auditor summary of selected transactions.

Additionally, we performed non-transaction-based cluster testing in five areas to evaluate whether UCM: (1) appropriately **allocated** publication costs across acknowledged funding sources in each publication; (2) appropriately charged salary expenses that it did not record in its payroll subledger; (3) appropriately spent **participant support cost** funding; (4) appropriately drew down funding in ACM\$; and (5) appropriately charged salary expenses consistent with certified effort reports.

## AUDIT RESULTS

We identified and questioned \$226,652 in costs that UCM charged to 36 NSF awards. We also identified expenses UCM charged to 42 NSF awards which resulted in non-compliance with federal, NSF, and/or UCM-specific policies and procedures but that did not result in questioned costs. 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.

<sup>3</sup> The expense amounts reported represent the total dollar value of the transactions selected for our sample. They do not include the total **fringe benefit** or indirect costs applied to the sampled transactions, which we also tested for allowability.

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

Finding Description	Questioned Costs
Unallowable Expenses	\$116,151
Inappropriately Allocated Expenses	71,463
ACM\$ Drawdowns That Exceeded Expenses	21,064
Inadequately Supported Expenses	17,492
Indirect Costs Inappropriately Applied	482
Payroll Subledger Expenses That Exceeded GL Payroll Expenses	-
Inappropriately Budgeted Participant Support Costs	-
Non-Compliance with UCM Policies	-
<b>Total</b>	<b>\$226,652</b>

Source: Auditor summary of findings identified.

We made 33 recommendations for NSF’s Director of the Division of Institution and Award Support related to resolving the \$226,652 in questioned costs and ensuring UCM strengthens its administrative and management procedures for monitoring federal funds. We communicated the results of our audit and the related findings and recommendations to UCM and NSF OIG. We included UCM’s response to this report in its entirety in [Appendix A](#).

### **FINDING 1: UNALLOWABLE EXPENSES**

UCM charged 17 NSF awards a total of \$116,151 in salary, duplicate, publication, [travel](#), participant support, and consultant expenses that are unallowable per federal regulations<sup>4</sup> and NSF [Proposal and Award Policies and Procedures Guides \(PAPPGs\)](#).<sup>5</sup>

#### ***Unallowable Salary Expenses***

UCM charged six NSF awards for \$91,062 in unallowable salary expenses related to salary earned after NSF awards expired,<sup>6</sup> salary not included on certified effort reports,<sup>7</sup> and

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

<sup>5</sup> NSF PAPPGs 11-1, 14-1, 15-1, and 16-1, Part II, Chapter V, Section A, and 17-1, 18-1, and 19-1, Part II, Chapter X, Section A, state grantees should ensure all costs charged to NSF awards meet the requirements of the applicable federal cost principles, grant terms and conditions, and any other specific requirements of both the award notice and the applicable program solicitation.

<sup>6</sup> According to 2 CFR 220, Appendix A, Section J.10.a, and 2 CFR § 200.430(a), compensation for personal services covers all amounts paid currently or accrued for services of employees rendered during the period of performance under sponsored agreements/federal awards.

<sup>7</sup> According to 2 CFR §200.430(h)(8)(i), charges for salaries and wages must be based on the payroll documented in accordance with the practices of the university. Moreover, according to 2 CFR §200.430(i), salaries and wages charged to federal awards must be based on records that accurately reflect the work performed.

salary paid at amounts that were not based on the employee’s Institutional Base Salary (IBS),<sup>8</sup> as illustrated in Table 3.

**Table 3: Unallowable Salary Expenses**

Expense Dates	NSF Award No.	Unallowable Salary	Unallowable Salary Associated With:	Notes
August – December 2017	██████	\$694	Salary Earned After the NSF Award Expired	<b>a</b>
August – December 2017	██████	1,240	Salary Earned After the NSF Award Expired	<b>b</b>
August – December 2017	██████	21,068	Salary Earned After the NSF Award Expired	<b>c</b>
August – December 2017	██████	564	Effort Not Included on a Certified Effort Report	<b>d</b>
August – December 2017	██████	564	Effort Not Included on a Certified Effort Report	<b>e</b>
August – December 2017	██████	22,488	Effort Not Included on a Certified Effort Report	<b>f</b>
August – December 2017	██████	0	Salary Not Calculated Using the Employee’s IBS	<b>g</b>
January – May 2018	██████	2,271	Salary Earned After the NSF Award Expired	<b>h</b>
January – May 2018	██████	3,164	Effort Not Included on a Certified Effort Report	<b>i</b>
July 2018	██████	6,110	Effort Not Included on a Certified Effort Report	<b>j</b>
May – August 2020	██████	32,899	Effort Not Included on a Certified Effort Report and Salary Not Calculated Using the Employee’s IBS	<b>k</b>

Source: Auditor summary of identified exceptions.

- a)** Although NSF Award No. ██████’s POP expired on July 31, 2017, UCM charged the award for \$694 in salary expenses that an associate specialist earned between August and December 2017.
- b)** Although NSF Award No. ██████’s POP expired on July 31, 2017, UCM charged the award for \$1,240 in salary expenses that an associate specialist earned between August and December 2017.
- c)** Although NSF Award No. ██████’s POP expired on July 31, 2017, UCM charged the award for \$21,068 in salary expenses that a postdoctoral student earned between August and December 2017.

<sup>8</sup> According to 2 CFR 220, Appendix A, Section J.10.d.(1), and 2 CFR § 200.430(h)(2), charges of a faculty member’s salary to federal awards must not exceed the proportionate share of IBS for the period during which the faculty member worked on the award.

- d)** From August through December 2017, UCM charged NSF Award No. [REDACTED] for \$564 in salary expenses that were not supported by the employee's effort report. Specifically, UCM did not provide a Fall 2017 effort report for this employee and stated that it may not have created a report for this time period, as UCM was in the process of transitioning to a new payroll system at that time.
- e)** From August through December 2017, UCM charged NSF Award No. [REDACTED] for \$564 in salary expenses that were not supported by the employee's effort report. Although UCM stated that it had likely omitted this expense from the Fall 2017 effort report due to an error in the payroll system conversion process, because UCM did not include this expense on the employee's certified payroll report, the expense is not allowable on this award.
- f)** From August through December 2017, UCM charged NSF Award No. [REDACTED] for \$22,488 in salary expenses that were not supported by the employee's effort report. UCM stated that it erroneously charged the salary expenses to this NSF award because it used the wrong chart string when making two retroactive payments to this employee.
- g)** From August through December 2017, UCM charged NSF Award No. [REDACTED] for \$1,023 in salary expenses, which it calculated based on the employee's Summer 2017 monthly IBS of \$4,355. However, UCM should have calculated the salary expense based on the employee's Fall 2017 IBS of \$4,456, for a total of \$1,046. Because UCM did not overcharge the NSF award, we are not questioning any costs associated with this instance. However, we are noting a compliance exception, as UCM did not use the appropriate IBS to calculate the employee's salary expense.
- h)** Although NSF Award No. [REDACTED]'s POP expired on January 31, 2018, UCM charged the award for \$2,271 in salary expenses that an associate specialist earned between January and May 2018.
- i)** From January through May 2018, UCM charged NSF Award No. [REDACTED] for \$3,164 in salary expenses that were not supported by the employee's effort report. Although UCM stated that it had likely omitted this expense from the Spring 2018 effort report due to an error in the payroll system conversion process, because UCM did not identify this expense as allocable to this award on the employee's certified payroll report, these costs are not allowable.
- j)** In July 2018, approximately two months after NSF Award No. [REDACTED] expired,<sup>9</sup> UCM transferred \$6,110 in salary expenses that an employee earned between August and December 2016 to this NSF award. Although this earning period was within the grant's POP, the employee's applicable effort report—which the employee certified in May 2019—does not support that any of the employee's effort between August and December 2016 was allocable to this NSF award.

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<sup>9</sup> NSF Award No. [REDACTED]'s POP expired on May 31, 2018.

- k) From May through August 2020, UCM charged NSF Award No. [REDACTED] for \$32,899 in salary expenses that were not supported by the employee’s effort report. Specifically, UCM processed this expense as an additional payment on top of the employee’s IBS salary (10 percent of which UCM also charged to this NSF award) but did not include the additional payment on the employee’s certified effort report. Further, UCM did not maintain documentation to support that it had based the amount of this payment on the employee’s IBS.

**Unallowable Duplicate Expenses**

UCM charged two NSF awards for \$9,033 in duplicate expenses, as illustrated in Table 4.

**Table 4: Unallowable Duplicate Expenses**

Expense Date	NSF Award No.	Unallowable Total	Unallowable Expenses Associated With:	Notes
June 2018	[REDACTED]	\$9,003	Duplicate Indirect Expenses	a
July 2019	[REDACTED]	30	Duplicate Travel Expense	b

Source: Auditor summary of identified exceptions.

- a) In June 2018, UCM inappropriately charged its payroll-related costs for that month to NSF Award No. [REDACTED] twice. Although UCM identified the direct costs associated with the duplicate payroll expenses and removed them from this NSF award in July 2018, it did not remove the \$9,003 in indirect costs it had applied to the duplicate payroll expenses.
- b) In July 2019, UCM inappropriately reimbursed a \$30 expense twice when processing a travel reimbursement charged to NSF Award No. [REDACTED]

**Unallowable Publication Expenses**

UCM charged two NSF awards for \$6,471 in publication expenses that were not allowable because the published articles did not acknowledge the NSF awards charged,<sup>10</sup> as illustrated in Table 5.

**Table 5: Unallowable Publication Expenses**

Expense Date	Publication Expense	NSF Award Acknowledged in Publication	NSF Award Charged for Publication Expense	Notes
January 2018	\$2,596	[REDACTED]	[REDACTED]	a
July 2019	3,875	[REDACTED]	[REDACTED]	b

Source: Auditor summary of identified exceptions.

<sup>10</sup> According to 2 CFR § 200.461(b), charges for professional journal publications are allowable where the publications report work supported by the federal government. Further, NSF PAPPG 15-1, Part II, Chapter VI, Section E.4, and 19-1, Part II, Chapter XI, Section E.4, *Grantee Obligations*, state that the grantee is responsible for assuring that an acknowledgement of NSF support is made in any publication of any materials developed under an NSF project.

- a) In January 2018, UCM charged NSF Award No. [REDACTED] for \$2,596 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that only acknowledged funding received under NSF Award No. [REDACTED]
- b) In July 2019, UCM charged NSF Award [REDACTED] for \$3,875 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that only acknowledged funding received under NSF Award No. [REDACTED]

***Unallowable Travel Expenses***

UCM charged five NSF awards for \$5,642 in unallowable travel expenses,<sup>11</sup> as illustrated in Table 6.

**Table 6: Unallowable Travel Expenses**

Expense Date	NSF Award No.	Unallowable Total	Unallowable Travel Expenses Associated With:	Notes
January 2018	[REDACTED]	\$30	Incorrect Vehicle Mileage Reimbursement	a
October 2018	[REDACTED]	1,117	Meal Per Diem Reimbursement	b
April 2019	[REDACTED]	1,286	Unused Lodging	c
August 2019	[REDACTED]	37	Airfare Seat Upgrade	d
May 2020	[REDACTED]	3,172	Travel Expenses That Did Not Benefit the Award Charged	e

Source: Auditor summary of identified exceptions.

- a) In January 2018, UCM charged NSF Award No. [REDACTED] for \$530 in travel expenses when the employee’s expense report only supported \$500, or \$30 less than the total charged.<sup>12</sup> Specifically, the employee’s expense report supported that the Principal Investigator (PI) traveled a total of 604 miles to attend an NSF grant-related conference in [REDACTED], CA, rather than the 640 miles used to calculate the expense reimbursement.<sup>13</sup>
- b) In October 2018, UCM charged NSF Award No. [REDACTED] for \$1,117 in meal expenses that a research team member inappropriately claimed during a trip to [REDACTED].

<sup>11</sup> According to 2 CFR § 200.474(b), *Travel Costs*, costs that employees and officers incur for travel, including costs of lodging, other subsistence, and incidental expenses, must be considered reasonable and otherwise allowable only to the extent that such costs do not exceed charges normally allowed by the non-federal entity in its regular operations as the result of the non-federal entity’s written travel policy. In addition, this regulation states that, if travel costs are charged directly to a federal award, documentation must justify that (1) participation of the individual is necessary to the federal award and (2) the costs are reasonable and consistent with the non-federal entity’s established travel policy.

<sup>12</sup> We calculated this amount as follows: 640 miles \* \$0.535 per mile (plus associated indirect costs) - 604 miles \* \$0.535 per mile (plus associated indirect costs) = \$30.

<sup>13</sup> Per University of California (UC) Policy G-28, *Travel Regulations*, Section V.I.2.a., any substantial deviation from the distance shown in a standard highway mileage guide must be explained.

Specifically, the traveler calculated the meal costs using per diem rates rather than actual meal expenses, as is required for trips that are less than 30 days, per University of California (UC) travel regulations.<sup>14</sup>

- c) In April 2019, UCM charged NSF Award No. [REDACTED] for \$1,286 in unused lodging that UCM had originally reserved for the NSF Research Traineeship annual meeting but that was not ultimately occupied by participants and therefore did not benefit the award.<sup>15</sup>
- d) In August 2019, UCM charged NSF Award No. [REDACTED] for \$37 in unallowable airfare upgrade expenses for which UCM was unable to provide justification.<sup>16</sup>
- e) In May 2020, UCM charged NSF Award No. [REDACTED] for \$3,172 in airfare, lodging, and rental car costs that a PI incurred to travel to a conference in [REDACTED] that he was ultimately unable to attend. Specifically, although the PI was scheduled to present grant-related information at the conference, he was required to return to the U.S. for personal reasons prior to the conference.

***Unallowable Use of Participant Support Cost Funding***

UCM used \$2,353 in participant support cost funding awarded on three NSF awards to cover non-participant or other unallowable expenses,<sup>17</sup> as illustrated in Table 7.

**Table 7: Unallowable Use of Participant Support Cost Funding**

Expense Date	NSF Award No.	Unallowable Total	Participant Support Cost Funding Used to Cover Costs Associated With:	Notes
March 2018	[REDACTED]	\$860	Participant Gifts	<b>a</b>
April 2018	[REDACTED]	94	Faculty and Staff Meals	<b>b</b>
September 2018	[REDACTED]	399	PI Mileage and Meal Expenses	<b>c</b>
August 2019	[REDACTED]	1,000	Additional Compensation for Work Performed	<b>d</b>

Source: Auditor summary of identified exceptions.

<sup>14</sup> Per UC Policy G-28, *Travel Regulations*, Section V.E.2.a.i, for travel less than 30 days within the continental United States, UC reimburses expenses based on actual amounts incurred for lodging and meals rather than per diem, and these expenses are subject to a maximum per day reimbursement cap.

<sup>15</sup> According to 2 CFR §200.403(a), expenses must be necessary and reasonable for the performance of the federal award to be allowable.

<sup>16</sup> According to 2 CFR §200.474(d), airfare in excess of the basic, least-expensive class is generally unallowable.

<sup>17</sup> NSF PAPPGs 11-1 and 17-1, Part I, Chapter II, Section C.2.g(v), state that participant support costs are for items such as stipends or subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with NSF-sponsored conferences or training projects. Additionally, 2 CFR § 200.75, *Participant Support Costs*, states that participant support costs include direct costs for stipends, subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees, but not employees. (Note that 2 CFR § 200.75 does not apply to NSF Award No. [REDACTED])

- a) In March 2018, UCM used participant support cost funds awarded under NSF Award No. [REDACTED] to cover \$860 in expenses incurred to purchase t-shirts provided as gifts to participants. As UCM did not include these shirts in the grant budget, and as the shirts do not appear to have been necessary to achieve the objectives of the award, the shirts appear to be unallowable gifts.<sup>18</sup>
- b) In April 2018, UCM used participant support cost funds awarded under NSF Award No. [REDACTED] to cover \$94 in meal costs for UCM faculty and staff.
- c) In September 2018, UCM used participant support cost funds awarded under NSF Award No. [REDACTED] to cover \$399 in mileage and meal costs that the PI incurred to attend an NSF grant-related conference.
- d) In August 2019, UCM used participant support cost funds awarded under NSF Award No. [REDACTED] to pay one participant an additional \$1,000 for fulfilling duties outside of their original involvement as an award participant.

***Unallowable Stipend Payment***

UCM charged one NSF award for \$1,590 in unreasonable, and therefore unallowable, stipend expenses,<sup>19</sup> as illustrated in Table 8.

**Table 8: Unallowable Stipend Payment**

Expense Date	NSF Award No.	Unallowable Total	Unallowable Stipend Payment Associated With:	Notes
July 2020	[REDACTED]	\$1,590	Unreasonable Student Stipend	<b>a</b>

Source: Auditor summary of identified exception.

- a) In July 2020, UCM charged NSF Award No. [REDACTED] for \$1,590 to pay a graduate student stipend. Although the student does appear to have dedicated effort to this award, this student had already received a payment in the same amount from the [REDACTED] for their participation on this award during this time period.

***Unallowable Consultant Expense***

UCM charged one NSF award for consultant expenses that it did not appropriately verify were allowable, as illustrated in Table 9.

<sup>18</sup> Per UC Policy G-42, *Gifts Presented to Non-Employees on Behalf of the University*, federal funds may not be used to purchase promotional item gifts, such as t-shirts, unless such expenses are specifically authorized in the contract or grant.

<sup>19</sup> According to NSF PAPPG 17-1, Part I, Chapter II, Section C.2.g, a cost must be considered necessary, reasonable, allocable, and allowable under 2 CFR § 200, Subpart E; NSF policy; and/or the program solicitation.

**Table 9: Unallowable Consultant Expense**

Expense Date	NSF Award No.	Unallowable Consultant Payment Associated With:	Notes
August 2019	██████████	Inappropriately Approved Consultant Invoice	a

Source: Auditor summary of identified exception.

- a) In August 2019, UCM charged NSF Award No. ██████████ for \$5,528 in consulting expenses included in an invoice on which the consultant applied an inappropriate indirect cost rate. Although UCM did not appropriately verify this cost was allowable prior to paying the consultant invoice, because the mistake resulted in the consultant undercharging indirect costs by \$57, we are not questioning any costs associated with this exception.

### Conclusion

UCM did not have sufficient policies and procedures or internal controls in place to ensure it only charged allowable costs to NSF awards. Specifically, UCM’s procedures did not always ensure that it charged NSF awards for salaries and wages, indirect costs, travel, participant support costs, and consultant expenses in a manner consistent with federal guidance, NSF award terms and conditions, and UCM policies and procedures.

We are therefore questioning \$116,151 of unallowable expenses charged to 17 NSF awards. UCM concurred with \$111,859 of the questioned costs but disagreed with the remaining \$4,292, as illustrated in Table 10.

**Table 10: Finding 1 Summary: Unallowable Expenses**

NSF Award No.	Description	Fiscal Year	Questioned Costs			UCM Agreed to Reimburse
			Direct	Indirect	Total	
██████████	August – December 2017 Salary	2018	\$448	\$246	\$694	\$694
██████████	August – December 2017 Salary	2018	800	440	1,240	1,240
██████████	August – December 2017 Salary	2018	13,592	7,476	21,068	21,068
██████████	August – December 2017 Salary	2018	364	200	564	-
██████████	August – December 2017 Salary	2018	364	200	564	-
██████████	August – December 2017 Salary	2018	14,508	7,980	22,488	22,488
██████████	August – December 2017 Salary	2018	-	-	-	-

NSF Award No.	Description	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	UCM Agreed to Reimburse
██████	January – May 2018 Salary	2018	1,465	806	2,271	2,271
██████	January – May 2018 Salary	2018	2,041	1,123	3,164	-
██████	July 2018 Salary	2019	3,942	2,168	6,110	6,110
██████	May – August 2020 Salary	2020-2021	21,225	11,674	32,899	32,899
██████	June 2018 Duplicate Indirect Costs	2018	-	9,003	9,003	9,003
██████	July 2019 Duplicate Travel	2020	30	-	30	30
██████	January 2018 Publication	2018	1,675	921	2,596	2,596
██████	July 2019 Publication	2020	2,500	1,375	3,875	3,875
██████	January 2018 Mileage Reimbursement	2018	19	11	30	30
██████	October 2018 Per Diem Reimbursement	2019	957	160	1,117	1,117
██████	April 2019 Unused Lodging	2019	1,286	-	1,286	1,286
██████	August 2019 Airfare Upgrade	2020	37	-	37	37
██████	May 2020 Trip	2020	2,046	1,126	3,172	3,172
██████	March 2018 Participant Gifts	2018	860	-	860	860
██████	April 2018 Non-Participant Travel	2018	94	-	94	94
██████	September 2018 Non-Participant Travel	2019	399	-	399	399
██████	August 2019 Non-Participant Services	2020	1,000	-	1,000	1,000
██████	July 2020 Stipend	2021	1,590	-	1,590	1,590
██████	August 2019 Consultant	2020	-	-	-	-
<b>Total</b>			<b><u>\$71,242</u></b>	<b><u>\$44,909</u></b>	<b><u>\$116,151</u></b>	<b><u>\$111,859</u></b>

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 1.1 Resolve the \$4,292 in questioned salary expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$111,859 in questioned salary, duplicate, publication, travel, and participant support costs for which it has agreed to reimburse NSF.
- 1.3 Direct UCM to provide training regarding its policy requirements for charging salary to NSF awards to ensure personnel do not charge payroll to expired awards, additional compensation is appropriately supported and included in the effort reports, and employees appropriately certify effort reports to support the amount charged to federally sponsored programs.
- 1.4 Direct UCM to update its policies, procedures, and internal controls for certifying effort reports. The guidance could further include requirements for verifying that employees have certified their effort before charging the employees' salary expenses to sponsored awards.
- 1.5 Direct UCM to strengthen its administrative and management processes for ensuring that it does not charge duplicate expenses to NSF awards. Updated procedures could include implementing internal controls to ensure that UCM does not charge any direct and indirect expenses to NSF more than once.
- 1.6 Direct UCM to establish clear guidance regarding the allowability of publication expenses on sponsored projects, including the requirement to acknowledge NSF funding sources.
- 1.7 Direct UCM to strengthen its administrative and management processes and procedures surrounding the charging of travel expenses. Updated procedures could include:
  - Conducting annual training(s) that address how to ensure UCM appropriately reimburses expenses based on the per diem or actual expense methods, including which method travelers must use for each trip.
  - Establishing clear guidance regarding the allowability of unused lodging that does not benefit the project(s) charged.
  - Implementing additional reviews for all airfare purchases, including requiring the reviewer to verify airfare is for an economy-class ticket and

complies with federal regulations before charging the expense to federal project(s).

- Requiring periodic training for individuals who travel for federal projects that addresses the allowability of travel expenses on federal awards.

- 1.8 Direct UCM to establish clear guidance regarding allowable uses of participant support cost funding. This guidance should address how to segregate and account for costs that UCM cannot cover using participant support cost funding, such as costs incurred for UCM employees and expenses associated with other direct costs that UCM did not specifically identify in the award budget.
- 1.9 Direct UCM to strengthen its policies and procedures related to charging federal grants for student stipends that already have other funding sources. Updated procedures could include establishing clear guidance regarding funding sources to ensure that UCM does not unreasonably charge participants to federal grants.
- 1.10 Direct UCM to require Principal Investigators or other designated staff to verify that expenses billed by consultants are consistent with the appropriate payment terms and conditions prior to charging expenses to NSF.

**University of California, Merced Response:** UCM agreed to reimburse NSF for \$111,859 of the questioned costs, as well as to strengthen its internal controls to ensure it only charges allowable costs to NSF awards in the future. UCM disagreed with the remaining \$4,292 in questioned costs, as follows:

- **Salary Expenses:** UCM disagreed with \$4,292 in questioned salary expenses that were not supported by the employee's effort report. Specifically, UCM noted that its implementation of a new system-wide payroll program caused data integration issues, and that as a result, there was no reasonable method for including the salary expenses in employees' effort reports. Further, UCM stated that it believes these costs should be allowable because:
  - The two questioned instances in which UCM charged NSF Award No. [REDACTED] for \$564 in salary expenses benefited the award and were reasonable.
  - The questioned instance in which UCM charged NSF Award No. [REDACTED] for \$3,164 in salary expenses benefited the award and was consistent with other payments made to the sampled employee during the Spring 2018 period.

**Auditors' Additional Comments:** Although UCM believes that the \$4,292 in questioned salary expenses should be allowable because the expenses benefited the NSF award charged, salary payments must be included within certified effort reports for the costs to be

allowable per UCM and federal regulations.<sup>20</sup> As a result, our position regarding this finding has not changed.

## **FINDING 2: INAPPROPRIATELY ALLOCATED EXPENSES**

UCM was unable to support that it always allocated expenses to NSF awards based on the relative benefits the awards received, as required by both federal regulations<sup>21</sup> and NSF PAPPGs.<sup>22</sup> As a result, UCM inappropriately charged eight NSF awards a total of \$71,463 in purchases near grant expiration and publication expenses.

### ***Inappropriately Allocated Purchases Near Grant Expiration***

UCM inappropriately charged four NSF awards for \$60,451 in expenses associated with purchases made near the awards' expiration dates, when UCM had little or no time to use the purchases to benefit the awards,<sup>23</sup> as illustrated in Table 11.

**Table 11: Inappropriately Allocated Purchases Near Grant Expiration**

Expense Date	NSF Award No.	Expenses Near Grant Expiration			Notes
		Amount Charged	Percent Allocable	Amount Inappropriately Allocated	
July 2018	██████	\$5,482	Unable to Determine	\$5,482	a
August 2018	██████	2,505	Unable to Determine	2,505	b
September 2018	██████	5,344	Unable to Determine	5,344	c
April 2019	██████	14,691	33	9,793	d
November 2019	██████	5,167	Unable to Determine	5,167	e
February 2020	██████	32,160	Unable to Determine	32,160	f

Source: Auditor summary of identified exceptions.

<sup>20</sup> According to 2 CFR §200.430(h)(8)(1), charges to Federal awards for salaries and wages must be based on records that accurately reflect the work performed.

<sup>21</sup> According to 2 CFR § 200.405 (a), a cost is allocable to a particular cost objective (i.e., a specific function, project, sponsored agreement, department, or the like) if the goods or services involved are chargeable or assignable to such cost objective in accordance with relative benefits received (or other equitable relationship).

<sup>22</sup> NSF PAPPGs 15-1 and 16-1, Part II, Chapter V, Section A, and 17-1, 18-1, and 19-1, Part II, Chapter X, Section A, state that grantees should ensure all costs charged to NSF awards meet the requirements of the applicable federal cost principles, grant terms and conditions, and any other specific requirements of both the award notice and the applicable program solicitation.

<sup>23</sup> NSF PAPPGs 15-1, Part II, Chapter V, Section A.2.c., and 17-1 and 18-1, Part II, Chapter X, Section A.2.c., state that grantees should not purchase equipment items or computing devices or restock materials and supplies in anticipation of grant expiration where there is little or no time left to use such items in the actual conduct of the research.

- a) In July 2018, UCM charged NSF Award No. [REDACTED] for \$5,482 in costs incurred to purchase a centrifuge, which represented 65 percent of the total cost of the centrifuge. Because UCM received the **equipment** on August 3, 2018, 28 days before the award's POP expired,<sup>24</sup> UCM does not appear to have allocated the equipment to this award consistent with the relative benefits the award received. Further, we noted that UCM did not request any funding to support the purchase of a centrifuge for this award.
- b) In August 2018, UCM charged NSF Award No. [REDACTED] for \$2,505 in chemical expenses. Because UCM purchased the chemicals in the last three weeks of the grant's extended POP and was unable to provide any documentation to support when it received the materials, UCM does not appear to have allocated the cost of the chemicals to this award consistent with the relative benefits the award received.
- c) In September 2018, UCM charged NSF Award No. [REDACTED] for \$5,344 in costs incurred to purchase a laser, which represented 100 percent of the total cost of the laser. Because UCM did not receive the laser until 10 days after the award's POP expired,<sup>25</sup> UCM does not appear to have allocated the cost of the laser to this award consistent with the relative benefits the award received.
- d) In April 2019, UCM charged NSF Award No. [REDACTED] for \$14,691 in costs incurred for an equipment maintenance and service contract. Because only 4 months of the 12-month contract period, or 33 percent, fell within the award's POP,<sup>26</sup> UCM appears to have inappropriately allocated the remaining 67 percent of the contract costs associated with the 8 months of service provided after the POP expired, or \$9,793, to this award.
- e) In November 2019, UCM charged NSF Award No. [REDACTED] for \$5,167 in costs incurred to purchase computing nodes and other related computing items. Because UCM did not purchase the equipment until the final 2 months of the award's POP<sup>27</sup> and did not receive the equipment until 10 days prior to the award's expiration date, and because UCM stated that it charged the amount based on the amount of funding remaining on the NSF award,<sup>28</sup> UCM does not appear to have allocated the cost of the equipment to this award consistent with the relative benefits the award received.
- f) In February 2020, UCM charged NSF Award No. [REDACTED] for \$32,160 in costs incurred to purchase computing nodes and other related computing items. Because UCM did not receive these items until 8 days after the award's POP expired, UCM

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<sup>24</sup> NSF Award No. [REDACTED]'s POP expired on August 31, 2018.

<sup>25</sup> NSF Award No. [REDACTED]'s POP expired on September 30, 2018.

<sup>26</sup> NSF Award No. [REDACTED]'s POP expired on July 31, 2019.

<sup>27</sup> NSF Award No. [REDACTED]'s POP expired on December 31, 2019.

<sup>28</sup> UCM stated that the amount charged to the NSF award was based on the amount of funding remaining on the award, and that the PI covered the rest of the costs for the equipment using their start-up funds.

does not appear to have allocated the cost of the equipment to this award consistent with the relative benefits the award received.

***Inappropriately Allocated Publication Costs***

UCM charged four NSF awards for \$11,012 in **publication costs** that UCM did not allocate based on the relative benefits received by each project that sponsored the published research,<sup>29</sup> as illustrated in Table 12.

**Table 12: Inappropriately Allocated Publication Costs**

Expense Date	Publication Details				Notes
	Amount Charged	NSF Award Charged	Funding Sources Referenced/Acknowledged	Percent Allocable	
July 2018	\$2,286	██████████	NSF Award No. ██████████ U.S. Department of Energy Grant NIH Instrumentation Grant	Unable to Determine	a
April 2019	2,542	██████████	NSF Award No. ██████████ NSF Award No. ██████████ ██████████ ██████████ ██████████	Unable to Determine	b
November 2019	3,061	██████████	NSF Award No. ██████████ NSF Award No. ██████████ NSF Award No. ██████████ <sup>30</sup>	Unable to Determine	c
June 2020	3,123	██████████	NSF Award No. ██████████ NSF Award No. ██████████ NSF Award No. ██████████ NSF Award No. ██████████ Air Force ██████████ ██████████ and ██████████	Unable to Determine	d

Source: Auditor summary of identified exceptions.

- a) In July 2018, UCM charged NSF Award No. ██████████ for \$2,286 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that acknowledged three sources of funding as having contributed to the published research.
- b) In April 2019, UCM charged NSF Award No. ██████████ for \$2,542 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that acknowledged five sources of funding as having contributed to the published research.

<sup>29</sup> According to 2 CFR § 200.461(b), charges for professional journal publications are allowable where: (1) the publications report work supported by the federal government; and (2) the charges are levied impartially on all items published by the journal, whether they are under a federal award or not.

<sup>30</sup> NSF Award No. ██████████ was not a UCM award; it was awarded to ██████████ University.

- c) In November 2019, UCM charged NSF Award No. [REDACTED] for \$3,061 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that acknowledged three sources of funding as having contributed to the published research.
- d) In June 2020, UCM charged NSF Award No. [REDACTED] for \$3,123 in publication costs, which represented 100 percent of the costs UCM incurred to publish a research article that acknowledged six sources of funding as having contributed to the published research.

**Conclusion**

UCM did not have sufficient policies and procedures or internal controls in place to ensure that it reasonably allocated costs incurred based on the relative benefits each NSF award received.

We are therefore questioning \$71,463 of inappropriately allocated expenses charged to seven NSF awards. UCM concurred with \$16,242 of the questioned costs but disagreed with the remaining \$55,221, as illustrated in Table 13.

**Table 13: Finding 2 Summary: Inappropriately Allocated Expenses**

NSF Award No.	Description	Fiscal Year	Questioned Costs			UCM Agreed to Reimburse
			Direct	Indirect	Total	
[REDACTED]	July 2018 Centrifuge	2019	\$5,482	\$0	\$ 5,482	\$0
[REDACTED]	August 2018 Chemicals	2019	1,616	889	2,505	2,505
[REDACTED]	September 2018 Laser	2019	5,344	-	5,344	-
[REDACTED]	April 2019 Maintenance Contract	2019	6,318	3,475	9,793	9,793
[REDACTED]	November 2019 Computer Supplies	2020	5,167	-	5,167	-
[REDACTED]	February 2020 Computer Supplies	2020	32,160	-	32,160	-
[REDACTED]	July 2018 Publication	2019	1,475	811	2,286	1,143
[REDACTED]	April 2019 Publication	2019	1,640	902	2,542	1,271
[REDACTED]	November 2019 Publication	2020	1,975	1,086	3,061	1,530
1840265	June 2020 Publication	2020	2,015	1,108	3,123	-
<b>Total</b>			<b><u>\$63,192</u></b>	<b><u>\$8,271</u></b>	<b><u>\$71,463</u></b>	<b><u>\$16,242</u></b>

Source: Auditor summary of identified exceptions.

**Recommendations**

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

- 2.1 Resolve the \$55,221 in questioned equipment, materials and supplies, and publication expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 2.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$16,242 in questioned materials and supplies, maintenance, and publication expenses for which it has agreed to reimburse NSF.
- 2.3 Direct UCM to strengthen its administrative and management controls and processes for supporting the allocation of expenses to sponsored projects. Updated processes could include:
  - Requiring Principal Investigators or other designated staff to both document and justify the allocation methodologies used when charging expenses to sponsored projects near the grant expiration date.
  - Implementing a standard documentation and retention process to support the allocation of costs that benefit multiple awards.
- 2.4 Direct UCM to strengthen its administrative and management processes and procedures surrounding the approval of equipment expenses near the end of a grant's period of performance to ensure that UCM will receive the equipment before the grant expires. Updated procedures could include performing an additional review of equipment purchases made within 180 days of the grant's expiration date.
- 2.5 Direct UCM to provide training on how to assess and document the methodology used to allocate publication costs across each sponsored award acknowledged in the publication.

**University of California, Merced Response:** UCM agreed to reimburse NSF for \$16,242 of the questioned costs, as well as to strengthen its internal controls to ensure it appropriately allocates costs based on the relative benefits that the NSF awards receive. UCM disagreed with the remaining \$55,221 in questioned costs, as follows:

- ***Purchases Near Grant Expiration:*** UCM disagreed with \$48,153 of the questioned costs related to purchases near NSF award expiration because it believes these purchases benefited the NSF awards charged. Specifically:
  - With regard to the \$5,482 in questioned equipment costs charged to NSF Award No. [REDACTED] UCM stated that the PI was required to purchase a centrifuge to complete the research under this NSF award when a faculty member left UCM and took the centrifuge the PI had originally been using to perform the research. UCM further stated that the equipment was available

for 4 weeks before the end of the NSF award period and that it had allocated 35 percent of the cost of the centrifuge to another project.

- With regard to the \$5,344 in questioned equipment costs charged to NSF Award No. [REDACTED] UCM stated that the purpose of this award was to build an instrument that would benefit future research projects. UCM therefore believes that the purchase of a laser at the end of the award period was reasonable.
- With regard to the \$5,167 in questioned equipment costs charged to NSF Award No. [REDACTED] UCM stated that the storage server system was necessary to complete the objectives of this NSF award because the project had encountered issues when performing computational simulations. UCM further noted that, although it believes that 100 percent of the cost was allocable to this award, it only charged the award for \$5,167, as only \$5,167 in funding remained on the award.
- With regard to the \$32,160 in questioned equipment costs charged to NSF Award No. [REDACTED] UCM stated that the four computer nodes were necessary to complete the objectives of this NSF award because the project had encountered issues when performing computational simulations. UCM further noted that it had ordered the nodes in October 2019 and that it had anticipated the nodes would be available prior to December 2019, when it actually received the nodes.
- **Publication Expenses:** UCM disagreed with \$7,068 of the questioned publication costs, noting that it had allocated these costs to the NSF awards based on the relative benefits each project received. Specifically:
  - With regard to the \$2,286 in questioned publication costs charged to NSF Award No. [REDACTED] UCM stated that 50 percent of these costs were allocable to the award.
  - With regard to the \$2,542 in questioned publication costs charged to NSF Award No. [REDACTED] UCM stated that 50 percent of these costs were allocable to the award.
  - With regard to the \$3,061 in questioned publication costs charged to NSF Award No. [REDACTED] UCM stated that 50 percent of these costs were allocable to the award.
  - With regard to the \$3,123 in questioned publication costs charged to NSF Award No. [REDACTED] UCM stated that 100 percent of these costs were allocable to the award because the other projects acknowledged in the publication did not benefit from the publication. The other projects only provided graduate student mentoring, which benefited the publication.

**Auditors' Additional Comments:** Although UCM believes that \$55,221 of the questioned costs should be allowable because it allocated the costs to the NSF awards based on the relative benefits the awards received, UCM did not document that it used a reasonable methodology for performing these allocations.<sup>31</sup> As a result, our position regarding this finding has not changed. Specifically:

- **Purchases Near Grant Expiration:** Although UCM stated that these purchases were necessary to achieve the award objectives, because the purchases that UCM did not agree to reimburse related to receiving equipment/materials within the final month of the award's period of performance, when UCM would have little to no time to benefit from the purchases, and because UCM did not document that it used a reasonable methodology to allocate these costs to the NSF awards, our position regarding these exceptions has not changed.
- **Publication Expenses:** Although UCM stated that it had appropriately allocated the publication costs it did not agree to reimburse, because UCM did not document that it used a reasonable methodology for determining what percentage of each expense it should allocate to each sponsoring project, our position regarding these exceptions has not changed.

### **FINDING 3: ACM\$ DRAWDOWNS THAT EXCEEDED EXPENSES**

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UCM drew down funds on 21 NSF awards from NSF's Award Cash Management Service (ACM\$) that it did not appropriately return to NSF<sup>32</sup> and/or that it did not draw down in compliance with federal regulations<sup>33</sup> and NSF PAPPGs.<sup>34</sup>

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<sup>31</sup> According to 2 CFR §200.405(d), if a cost benefits multiple projects, the entity may allocate costs or transfer the costs to benefited projects on any **reasonable documented** basis. [emphasis added]

<sup>32</sup> According to 2 CFR §200.406(a), non-federal entities must apply applicable credits to a federal award either as a cost reduction or a cash refund, as appropriate, to the extent that the non-federal entity accrued or received the applicable credits.

<sup>33</sup> According to 2 CFR §215.22(b)(2) and 2 CFR § 200.305(b)(1), the timing and amount of advance payments must be as close as is administratively feasible to the actual disbursements by the non-federal entity for direct program or project costs and the proportionate share of any allowable indirect costs.

<sup>34</sup> NSF PAPPGs 11-1, 13-1, 14-1, 15-1, and 16-1, Part II, Chapter III, Section C.2.a., and 17-1, 18-1, and 19-1, Part II, Chapter VIII, Section C.2.a., state that the timing and amount of cash advances shall be as close as is administratively feasible/practicable to actual disbursements for direct program costs and the proportionate share of any allowable indirect costs. Additionally, NSF PAPPGs 13-1, Part II, Chapter III, Section B.4; 14-1, 15-1, and 16-1, Part II, Chapter III, Section C.1; and 17-1, 18-1, and 19-1, Part II, Chapter VIII, Section C.1, state that grantees must provide award-level detail when making payment requests through ACM\$. (Note that these PAPPGs do not apply to NSF Award Nos. [REDACTED] and [REDACTED])

***Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses***

UCM charged six NSF awards for \$15,466<sup>35</sup> in drawdowns that were not supported by the total expenses UCM had accumulated for these awards within its accounting system as of the end of our audit period, as illustrated in Table 14.

**Table 14: Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses**

NSF Award No.	Total Expenses in ACM\$	Total Expenses per UCM's GL	Discrepancy	Notes
██████████	\$87,731	\$82,445	\$5,286	a
██████████	161,090	159,005	2,085	b
██████████	352,048	351,642	406	c
██████████	193,098	191,766	1,332	d
██████████	18,066	15,387	2,679	e
██████████	50,000	46,322	3,678	f

Source: Auditor summary of identified exceptions.

- a) UCM drew down \$87,731 in funding on NSF Award No. ██████████ however, its accounting records supported that UCM had only posted \$82,445 in net expenses to the award during the audit period. Because this discrepancy appears to have been caused by UCM removing expenses from the award during the award's close-out process, UCM agreed to reimburse the \$5,286 in overdrawn expenses.
- b) UCM drew down \$161,090 in funding on NSF Award No. ██████████ however, its accounting records supported that UCM had only posted \$159,005 in net expenses to the award during the audit period. Because this discrepancy appears to have been caused by UCM removing expenses from the award during the award's close-out process, UCM agreed to reimburse the \$2,085 in overdrawn expenses.
- c) UCM drew down \$352,048 in funding on NSF Award No. ██████████ however, its accounting records supported that UCM had only posted \$351,642 in net expenses to the award during the audit period. Because the \$406 discrepancy appears to have been caused by UCM removing expenses from the award after performing its standard draw processes, UCM reviewed its GL and determined that it needed to return \$1,603 in funding to NSF.
- d) UCM drew down \$193,098 in funding on NSF Award No. ██████████ however, its accounting records supported that UCM had only posted \$191,766 in net expenses to the award during the audit period. Because this discrepancy appears to have been caused by UCM removing expenses from the award during the award's close-out process, UCM agreed to reimburse the \$1,332 in overdrawn expenses.

<sup>35</sup> Although our reconciliation only identified \$15,466 in overdrawn ACM\$ funds, UCM identified an additional \$1,198 in overdrawn funds charged to NSF Award No. ██████████ Accordingly, we are questioning \$16,663 in over-claimed ACM\$ expenses, as illustrated in Table 24.

- e) UCM drew down \$18,066 in funding on NSF Award No. [REDACTED] however, its accounting records supported that UCM had only posted \$15,387 in net expenses to the award during the audit period. Because this discrepancy appears to have been caused by UCM removing expenses from the award during the award’s close-out process, UCM agreed to reimburse the \$2,679 in overdrawn expenses.
- f) UCM drew down \$50,000 in funding on NSF Award No. [REDACTED] however, its accounting records supported that UCM had only posted \$46,322 in net expenses to the award during the audit period. Because this discrepancy appears to have been caused by UCM removing expenses from the award during the award’s close-out process, UCM agreed to reimburse the \$3,678 in overdrawn expenses.

***Costs Written Off in the Accounts Payable (AP) Subledger Not Returned to NSF***

UCM did not appropriately return \$4,401 in funding that it drew down under seven NSF awards for costs that it posted to its GL but wrote off in its AP subledger. Specifically, the total AP expenses UCM posted to its GL during the audit period exceeded the total AP expenses it posted to its AP subledger for seven NSF awards because UCM wrote off AP expenses, as illustrated in Table 15.

**Table 15: Costs Written Off in the AP Subledger Not Returned to NSF**

NSF Award No.	Total AP Expenses Posted to GL/Drawn in ACM\$	Total AP Expenses per UCM’s AP Subledger	Discrepancy
[REDACTED]	\$14,283	\$14,113	\$170
[REDACTED]	60,656	60,631	25
[REDACTED]	70,350	69,817	533
[REDACTED]	124,324	121,502	2,822
[REDACTED]	57,852	57,803	49
[REDACTED]	5,305	4,693	612
[REDACTED]	6,851	6,661	190

Source: Auditor summary of identified exceptions.

Because UCM did not process credits in its GL to remove the costs it had written off in its AP subledger, it did not appropriately return the written-off expenses to NSF.

***ACM\$ Draws That Exceeded Immediate Cash Needs***

UCM’s ACM\$ draws on eight NSF awards exceeded its immediate cash needs during one or more ACM\$ draw periods because UCM did not appropriately calculate its ACM\$ draw amounts based on immediate cash needs, as illustrated in Table 16.

**Table 16: ACM\$ Draws That Exceeded Immediate Cash Needs**

Award No.	ACMS Payment Request Date	Total ACM\$ Draw	Total Supported by UCM’s GL	ACM\$ Draw Unsupported by GL Expenses
[REDACTED]	7/18/2018	\$591,113	\$588,308	\$2,805
[REDACTED]	9/16/2014	353,890	300,086	53,804

Award No.	ACMS Payment Request Date	Total ACM\$ Draw	Total Supported by UCM's GL	ACM\$ Draw Unsupported by GL Expenses
	9/17/2014	331,701	300,086	31,615
	10/28/2016	968,853	967,167	1,686
	1/23/2017	1,010,719	1,001,153	9,566
	9/14/2018	1,370,395	1,367,650	2,745
	10/23/2018	1,372,669	1,368,444	4,225
	12/20/2018	1,373,480	1,370,144	3,336
██████████	9/17/2014	117,383	91,298	26,085
	9/16/2014	130,426	91,298	39,128
██████████	9/16/2014	64,451	49,773	14,678
	9/17/2014	59,558	49,773	9,785
██████████	9/16/2014	28,357	21,271	7,086
	9/17/2014	25,521	21,271	4,250
	7/10/2015	179,243	176,034	3,209
██████████	6/30/2017	813,364	774,113	39,251
	8/15/2017	962,251	960,523	1,728
	12/7/2017	1,266,327	1,265,784	543
	3/22/2018	1,496,237	1,492,609	3,628
	4/18/2018	1,561,232	1,558,332	2,900
	5/30/2018	1,775,781	1,774,693	1,088
	7/18/2018	1,932,902	1,925,225	7,677
	8/14/2018	2,039,177	2,038,577	600
	10/23/2018	2,288,646	2,285,591	3,055
	12/20/2018	2,433,484	2,431,595	1,889
	2/20/2019	2,621,030	2,620,027	1,003
	5/13/2019	2,854,742	2,854,228	514
	7/30/2019	2,860,629	2,842,874	17,755
	10/1/2019	3,170,949	3,170,008	941
██████████	3/22/2018	7,000	-	7,000
	12/20/2018	238,000	102,000	136,000
██████████	11/7/2019	7,461	4,627	2,834

Source: Auditor summary of identified exceptions.

Although UCM's ACM\$ draws exceeded its immediate cash needs on these eight NSF awards, because UCM's GL supported all costs claimed on these NSF awards as of the end of our audit period, we are not questioning any costs associated with these exceptions.

## Conclusion

UCM did not have sufficient policies and procedures or internal controls in place to ensure that it appropriately returned credits to NSF or that it appropriately drew down cash in ACM\$ based on its immediate cash needs per its accounting system.

We are therefore questioning \$21,064 in expenses charged to 13 NSF awards because UCM did not appropriately return the expenses to NSF during the audit period. We are also noting compliance exceptions for the eight NSF awards for which UCM's ACM\$ cash drawdowns exceeded award expenses on one or more draw dates. UCM concurred with the \$21,064 in questioned costs, as illustrated in Table 17.

**Table 17: Finding 3 Summary: ACM\$ Drawdowns That Exceeded Expenses**

NSF Award No.	Description	Questioned Costs	UCM Agreed to Reimburse
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	\$5,286	\$5,286
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	2,085	2,085
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	1,603 <sup>36</sup>	1,603
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	1,332	1,332
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	2,679	2,679
██████	Expenses Claimed in ACM\$ That Exceeded Accumulated Expenses	3,678	3,678
██████	Costs Written Off in the AP Subledger Not Returned to NSF	170	170
██████	Costs Written Off in the AP Subledger Not Returned to NSF	25	25
██████	Costs Written Off in the AP Subledger Not Returned to NSF	533	533
██████	Costs Written Off in the AP Subledger Not Returned to NSF	2,822	2,822
██████	Costs Written Off in the AP Subledger Not Returned to NSF	49	49
██████	Costs Written Off in the AP Subledger Not Returned to NSF	612	612
██████	Costs Written Off in the AP Subledger Not Returned to NSF	190	190
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-

<sup>36</sup> Although we initially identified a discrepancy of \$406, UCM confirmed that it is required to reimburse NSF a total of \$1,603. Specifically, UCM stated that the discrepancies between the expenses accumulated in its GL and the costs it claimed in ACM\$ were the result of cost transfers that caused the award to show a positive balance after the draw occurred.

NSF Award No.	Description	Questioned Costs	UCM Agreed to Reimburse
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
██████	ACM\$ Draws That Exceeded Immediate Cash Needs	-	-
<b>Total</b>		<b><u>\$21,064</u></b>	<b><u>\$21,064</u></b>

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 3.1 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$21,064 in questioned excessive Award Cash Management \$ervice drawdowns for which it has agreed to reimburse NSF.
- 3.2 Direct UCM to strengthen its award close-out procedures. Updated procedures should ensure that UCM appropriately performs final award reconciliations and appropriately reimburses NSF for credits posted during the award close-out process.
- 3.3 Direct UCM to implement additional accounting controls over the writing off of expenses in its accounts payable subledger. Updated controls should ensure that UCM posts credits to its general ledger for all expenses it writes off in its accounts payable subledger.
- 3.4 Direct UCM to strengthen the administrative and management internal controls and processes over its Award Cash Management \$ervice reconciliation process. Updated processes could include requiring that an individual who is independent from the standard Award Cash Management \$ervice drawdown process perform periodic reconciliations of Award Cash Management \$ervice cash drawdowns to UCM general ledger expenses for each active NSF award.

**University of California, Merced Response:** UCM agreed to reimburse NSF for the \$21,064 in questioned costs, as well as to strengthen its internal controls to ensure that it appropriately reimburses NSF for credits/reversals that UCM posts within its accounting systems. However, UCM disagreed with the compliance exceptions noted with regard to its drawdowns exceeding its immediate cash needs on eight NSF awards.

**Auditors' Additional Comments:** Because UCM agreed that (1) the expenses it had claimed in ACM\$ exceeded the accumulated expenses on six NSF awards and (2) it had not appropriately reimbursed NSF for costs written off within its AP subledger on seven NSF awards, and because UCM did not provide a justification as to why it disagreed with the compliance exceptions, our position regarding this finding has not changed.

**FINDING 4: INADEQUATELY SUPPORTED EXPENSES**

UCM did not provide adequate documentation to support the allocability, allowability, and reasonableness of \$17,492 in expenses charged to four NSF awards during the audit period, as was required for the costs to be allowable per federal regulations<sup>37</sup> and NSF PAPPGs.<sup>38</sup>

***Inadequately Supported Salary Expenses***

UCM did not provide adequate documentation to support the allowability of \$10,364 in salary expenses charged to one NSF award, as required by federal regulations,<sup>39</sup> as illustrated in Table 18.

**Table 18: Inadequately Supported Salary Expenses**

Expense Date	NSF Award No.	Inadequately Supported Expenses	Insufficient Documentation to Support:	Notes
June and July 2019	██████████	\$10,364	Hourly Rate or the Number of Hours Worked	a

Source: Auditor summary of identified exception.

- a) In June and July 2019, UCM charged NSF Award No. ██████████ for \$10,364 in undergraduate salaries that were based on an hourly rate. However, UCM did not provide documentation to support either the students' pay rates or the number of hours each student worked on the award.

***Inadequately Supported Consultant Expenses***

UCM did not provide adequate documentation to support the allowability of \$3,720 in consultant expenses charged to one NSF award. Specifically, the consultant's invoice did

<sup>37</sup> According to 2 CFR 220, Appendix A, Section C.2, and 2 CFR § 200.403(a), *Factors affecting allowability of costs*, for a cost to be allowable, it must be allocable and reasonable for the performance of the federal award. Additionally, according to 2 CFR 220, Appendix A, Section C.4, and 2 CFR §200.405(a), *Allocable Costs*, a cost is allocable to a particular cost objective if the goods or services involved are chargeable or assignable to the cost objective in accordance with the relative benefits received. A cost is allocable to a sponsored agreement if it is incurred solely to advance the work under the sponsored agreement or federal award.

<sup>38</sup> According to NSF PAPPGs 11-1, 15-1, and 16-1, Part II, Chapter V, Section A, and 17-1 and 18-1, Part II, Chapter X, Section A, *Basic Considerations*, grantees should ensure that costs claimed under NSF grants are necessary, reasonable, allocable, and allowable under the applicable cost principles, NSF policy, or the program solicitation. Additionally, the grantee organization is responsible for ensuring that all costs charged to NSF awards meet the requirements of the grant terms and conditions.

<sup>39</sup> According to 2 CFR §200.430(a), costs of compensation are allowable to the extent that they are reasonable for the services rendered, conform to the established written policy of the non-federal entity, are consistently applied to both federal and non-federal activities, and follow an appointment made in accordance with the non-federal entity's written policies.

not support the rates or quantities that the service provider billed, as required for the costs to be allowable per federal regulations<sup>40</sup> and the applicable NSF PAPPG,<sup>41</sup> as illustrated in Table 19.

**Table 19: Inadequately Supported Consultant Expenses**

Expense Date	NSF Award No.	Inadequately Supported Expenses	Insufficient Documentation to Support:	Notes
January 2018	██████████	\$3,720	Sequencing Service Rates or Quantities	<b>a</b>

Source: Auditor summary of identified exception.

- a) In January 2018, UCM charged NSF Award No. ██████████ for \$3,720 in costs incurred to obtain sequencing services from UC Davis. Although UCM included funding for these services in the grant budget, UC Davis’ invoice did not include sufficient information to verify whether the rates and the quantities invoiced were appropriate or allowable.

***Inadequately Supported Travel Expenses***

UCM did not provide adequate documentation to support that \$3,202 in travel costs charged to one NSF award were allowable per federal regulations,<sup>42</sup> as illustrated in Table 20.

**Table 20: Inadequately Supported Travel Expenses**

Expense Date	NSF Award No.	Inadequately Supported Expenses	Insufficient Documentation to Support:	Notes
November 2017	██████████	\$2,000	Business-Related Lodging Expenses	<b>a</b>
November 2017	██████████	1,202	Business versus Personal Airfare Expenses	<b>b</b>

Source: Auditor summary of identified exceptions.

- a) In November 2017, UCM charged NSF Award No. ██████████ for \$2,000 in lodging expenses that were not supported by an itemized receipt.<sup>43</sup>

<sup>40</sup> According to 2 CFR §200.403(a), *Factors affecting allowability of costs*, for a cost to be allowable, it must be adequately documented, as well as both necessary and reasonable for the performance of the federal award.

<sup>41</sup> NSF PAPPG 17-1, Part I, Chapter II, Section C.2.g.(vi)(c), states that anticipated services must be justified and information furnished on each individual’s expertise, primary organizational affiliation, normal daily compensation rate, and number of days of expected service. If requested, the proposer must be able to justify that the proposed rate of pay is reasonable.

<sup>42</sup> According to 2 CFR §200.474 (b), *Travel costs*, costs incurred by employees and officers for travel—including costs of lodging, other subsistence, and incidental expenses—must be considered reasonable and otherwise allowable only to the extent such costs do not exceed charges normally allowed by the non-federal entity in its regular operations, as per the non-federal entity’s written travel policy. In addition, if the non-federal entity charges the costs directly to the federal award, it must justify that the costs are reasonable and consistent with its established travel policy.

<sup>43</sup> Per UC Policy G-28, *Travel Regulations*, Section V.I.2.b.i., itemized receipts or receipts that support the reimbursement claim are required for all lodging expenses.

- b) In November 2017, UCM charged NSF Award No. [REDACTED] for \$1,202 in airfare expenses that the PI incurred to attend a conference in [REDACTED]. This trip also included 9 days of personal travel. Although the PI's attendance at the conference benefited the NSF award, UCM was unable to provide documentation supporting that it performed a cost comparison to ensure that the personal travel did not increase the total cost of the airfare charged to the award.<sup>44</sup>

***Inadequately Supported Publication Expenses***

UCM did not provide adequate documentation to support the allowability of \$206 in publication expenses charged to one NSF award, as illustrated in Table 21.

**Table 21: Inadequately Supported Publication Expenses**

Expense Date	NSF Award No.	Inadequately Supported Expenses	Insufficient Documentation to Support:	Notes
April 2019	[REDACTED]	\$206	Publication Fees	a

Source: Auditor summary of identified exception.

- a) In April 2019, UCM charged NSF Award No. [REDACTED] for \$2,864 in publication costs. However, UCM was only able to support \$2,658 of this amount, or \$206 less than the amount charged.

**Conclusion**

UCM did not have sufficient policies and procedures or internal controls in place to ensure that it received and maintained adequate documentation to support the allowability of all costs charged to federal awards. Specifically, UCM's policies, procedures, and internal controls did not ensure that salary expenses charged were supported by timesheets and/or documented compensation rates, that consultants invoiced costs based on established methodologies and approved rates, that travelers maintained sufficient documentation to support the allowability of claimed lodging and airfare expenses, and that publication expenses charged to NSF were allowable.

We are therefore questioning \$17,492 in inadequately supported expenses charged to four NSF awards. UCM concurred with \$7,128 of the questioned costs but disagreed with the remaining \$10,364, as illustrated in Table 22.

<sup>44</sup> Per UC Policy G-28, *Travel Regulations*, Section I.2.1, when any personal leave is taken while on official travel status, the number of personal days and/or the expenses associated with such personal travel days must be specified on the travel expense claim.

**Table 22: Finding 4 Summary: Inadequately Supported Expenses**

NSF Award No.	Description	Fiscal Year	Questioned Costs			UCM Agreed to Reimburse
			Direct	Indirect	Total	
██████	June – July 2019 Salary	2019-2020	\$10,364	\$0	\$10,364	\$0
██████	January 2018 Consultant Services	2018	2,400	1,320	3,720	3,720
██████	November 2017 Lodging	2018	1,290	710	2,000	2,000
██████	November 2017 Airfare	2018	776	426	1,202	1,202
██████	April 2019 Publication	2020	133	73	206	206
<b>Total</b>			<b><u>\$14,963</u></b>	<b><u>\$2,529</u></b>	<b><u>\$17,492</u></b>	<b><u>\$7,128</u></b>

Source: Auditor summary of identified exceptions.

### Recommendations

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

- 4.1 Resolve the \$10,364 in questioned inadequately supported salary expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 4.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$7,128 in questioned consultant, travel, and publication expenses for which it has agreed to reimburse NSF.
- 4.3 Direct UCM to strengthen its policies and procedures related to creating and retaining documentation, including introducing additional internal controls to help ensure that it appropriately creates and maintains all documentation necessary to support the allowability of expenses charged to sponsored programs. These additional internal controls could include:
  - Updating its policies for performing an annual review of UCM employees, both staff and students, to ensure it has documented an established rate of pay for each employee who charges salary expenses to sponsored projects.
  - Updating its policies to establish clear guidance regarding which hourly employees are required to complete a timesheet certifying their hours worked. The guidance could further indicate that timesheets must be reviewed and approved by an individual who is knowledgeable regarding the sponsored award.

- Updating its current consultant policies and procedures to ensure it reviews consultant invoices and only charges approved and assessed rates to federally sponsored awards.
- Providing additional training regarding requirements for travel documentation, including the documentation required when combining personal and business travel, to ensure it only reimburses travelers for allowable, supported lodging and airfare.
- Providing additional training to ensure it only charges federally sponsored awards for publication expenses that are supported and relate specifically to the sponsored award.

**University of California, Merced Response:** UCM stated that, although it employs appropriate documentation retention controls, because the ongoing pandemic has limited its ability to access records, it has agreed to reimburse NSF for \$7,128 of the questioned costs. UCM disagreed with the remaining \$10,364 in questioned costs, noting that, although it did not appropriately process these costs through payroll, the costs should be allowable because the payments benefited the awards.

**Auditors' Additional Comments:** Because UCM agreed that these costs were not adequately supported and/or that it did not appropriately process the costs through payroll, our position regarding this finding has not changed.

## **FINDING 5: INDIRECT COSTS INAPPROPRIATELY APPLIED**

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UCM charged one NSF award for \$482 in indirect costs that UCM inappropriately applied to participant support costs. UCM should not have included participant support costs as Modified Total Direct Costs (**MTDCs**), to which indirect costs are applied, per federal regulations,<sup>45</sup> NSF PAPPGs,<sup>46</sup> and UCM's **Negotiated Indirect Cost Rate Agreements** (NICRAs),<sup>47</sup> as illustrated in Table 23.

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<sup>45</sup> According to 2 CFR § 200.68, MTDCs include all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and subawards and subcontracts up to the first \$25,000 of each subaward or subcontract (regardless of the POP of the subawards and subcontracts under the award). MTDCs exclude equipment, **capital expenditures**, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward and subcontract in excess of \$25,000.

<sup>46</sup> NSF PAPPG 16-1, Part I, Chapter II, Section C.2.g(v), states that indirect costs are not allowed on participant support costs, and that participant support costs must be accounted for separately.

<sup>47</sup> UCM's NICRA dated January 8, 2016, states that MTDCs shall exclude equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward in excess of \$25,000.

**Table 23: Expenses Inappropriately Included as MTDCs**

Expense Date	NSF Award No.	Expenses Inappropriately Included in MTDC	Indirect Costs Inappropriately Applied	Notes
June 2019	██████████	Participant Lodging	\$482	a

Source: Auditor summary of identified exception.

- a) In June 2019, UCM charged NSF Award No. ██████████ for \$482 in indirect costs applied to participant lodging expenses.

**Conclusion**

UCM did not have sufficient policies and procedures or internal controls in place to ensure it appropriately charged participant support costs to account codes that UCM correctly excluded from its MTDC base.

We are therefore questioning \$482 in inappropriately applied indirect costs charged to one NSF award. UCM concurred with the \$482 in questioned costs, as illustrated in Table 24.

**Table 24: Finding 5 Summary: Indirect Costs Inappropriately Applied**

NSF Award No.	Description	Fiscal Year	Questioned Costs			UCM Agreed to Reimburse
			Direct	Indirect	Total	
██████████	June 2019 Participant Lodging	2019	\$0	\$482	\$482	\$482
<b>Total</b>			<u>\$0</u>	<u>\$482</u>	<u>\$482</u>	<u>\$482</u>

Source: Auditor summary of identified exception.

**Recommendations**

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

- 5.1 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$482 in questioned indirect costs for which it has agreed to reimburse NSF.
- 5.2 Direct UCM to strengthen its monitoring procedures and internal control processes for applying indirect costs to federal awards. Updated procedures could include implementing an annual review process for costs charged to awards that include funding for participant support costs to ensure UCM is appropriately segregating these expenses in accounts that it has excluded from its Modified Total Direct Cost base.

**University of California, Merced Response:** UCM agreed to reimburse NSF for the \$482 in questioned costs, as well as to strengthen its procedures to ensure proper classification of expenditures in the future.

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

**FINDING 6: PAYROLL SUBLEDGER EXPENSES THAT EXCEEDED GENERAL LEDGER PAYROLL EXPENSES**

Although federal regulations require that grantee financial management systems provide accurate, current, and complete disclosure of financial results,<sup>48</sup> UCM's GL did not accurately report \$9,438 in payroll expenses it had recorded in its payroll subledger for two NSF awards, as illustrated in Table 25.

**Table 25: Payroll Subledger Expenses Not Recorded in UCM's GL**

NSF Award No.	Total Payroll Expenses per UCM's Payroll Subledger	Total Payroll Expenses per UCM's GL	Discrepancy
██████	\$1,196,158	\$1,190,704	\$5,454
██████	1,247,075	1,243,091	3,984

Source: Auditor summary of identified exceptions.

**Conclusion**

UCM was unable to determine why it had not recorded these payroll costs in its GL. It therefore does not appear to have sufficient policies and procedures or internal controls in place to ensure that expenses recorded in its financial systems are accurate and complete.

Because the expenses supported by the payroll subledger exceeded those supported by the GL and claimed in ACM\$, and because these instances of non-compliance did not result in UCM charging unallowable costs to NSF awards, we are not questioning any costs for these exceptions. However, we are noting a compliance finding, as UCM was unable to determine why it had not recorded the \$9,438 in payroll subledger costs in its GL.

**Table 26: Finding 6 Summary: Payroll Subledger Expenses That Exceeded GL Payroll Expenses**

NSF Award No.	Compliance Exception Identified
██████	Payroll Subledger Expenses That Exceeded GL Payroll Expenses
██████	Payroll Subledger Expenses That Exceeded GL Payroll Expenses

Source: Auditor summary of identified exceptions.

<sup>48</sup> According to 2 CFR § 215.21(b), *Standards for Financial Management Systems*, and 2 CFR § 200.302(b), *Financial Management*, non-federal entities must provide accurate, current, and complete disclosure of the financial results of each federal award. This includes identifying all federal awards received and expended. Lastly, the records must contain authorizations, obligations, and asset expenditures and be supported by source documentation.

## Recommendation

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

- 6.1 Direct UCM to strengthen the administrative and management internal controls and processes over its financial systems. Updated processes could include requiring its departments to perform more frequent periodic reconciliations between the UCM general ledger and any applicable subledgers/subsystems on a cost-claimed basis and document justifications for any discrepancies identified.

**University of California, Merced Response:** UCM agreed that its GL did not accurately report \$9,438 in payroll expenses and stated that it would strengthen its internal procedures to ensure that its monthly reconciliations include a subledger-to-GL review.

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

### **FINDING 7: INAPPROPRIATELY BUDGETED PARTICIPANT SUPPORT COSTS**

UCM did not always appropriately budget, and therefore spend, participant support cost funds in accordance with NSF PAPPGs,<sup>49</sup> UCM policy,<sup>50</sup> and federal regulations,<sup>51</sup> as illustrated in Table 27.

**Table 27: Non-Participant Costs Budgeted as Participant Expenses**

Expense Dates	NSF Award No.	Inappropriately Budgeted Expenses	Notes
August 2018 – July 2019	██████████	Workshop Speaker Expenses	a
June 2019	██████████	Co-PI Salary Expenses	b

Source: Auditor summary of identified exceptions.

- a) Between August 2018 and July 2019, UCM used \$27,395 in participant support cost funds awarded under NSF Award No. ██████████ to host a workshop. UCM used these funds to cover costs associated with speakers’ attendance at the conference, consistent with the NSF award budget.
- b) In June 2019, UCM used participant support cost funds awarded under NSF Award No. ██████████ to cover \$18,247 in salary expenses for two co-PIs, consistent with the NSF award budget.

<sup>49</sup> NSF PAPPGs 11-1, Part II, Chapter V, Section B.8.a(i), and 17-1, Part I, Chapter II, Section C.2.g(v), state that participant support costs include items such as stipends or subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with NSF-sponsored conferences or training projects.

<sup>50</sup> UCM’s Sponsored Projects Office’s Proposal Budget guidance states that participants cannot be UCM employees, graduate students, or undergraduate students.

<sup>51</sup> According to 2 CFR § 200.75, *Participant Support Costs*, participant support costs include direct costs for stipends, subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees, but not employees. (Note that this CFR does not apply to NSF Award No. ██████████)

## Conclusion

UCM did not have sufficient policies and procedures or internal controls in place to ensure that it only budgeted and used participant support costs to cover participant-related expenses on sponsored projects. Specifically, UCM's procedures did not always ensure that the participant support cost section of UCM's NSF proposal budgets only included costs used to support NSF award participants.

Because UCM specifically included these non-participant expenses in the approved NSF award budgets, and because the expenses appear to have benefited the awards charged and did not directly result in UCM charging unallowable costs to NSF awards, we are not questioning any costs related to these exceptions. However, we are noting a compliance finding, as UCM should not have budgeted or charged these costs as participant support costs.

**Table 28: Finding 7 Summary: Inappropriately Budgeted Participant Support Costs**

NSF Award No.	Description	Fiscal Year
██████	August 2018 Workshop Expenses Inappropriately Budgeted	2019
██████	December 2018 Speaker Expenses Inappropriately Budgeted	2019
██████	June 2019 Speaker Expenses Inappropriately Budgeted	2019
██████	June 2019 Speaker Expenses Inappropriately Budgeted	2019
██████	June 2019 Speaker Expenses Inappropriately Budgeted	2019
██████	July 2019 Speaker Expenses Inappropriately Budgeted	2020
██████	June 2019 Co-PI Salary Expenses Inappropriately Budgeted	2019

*Source: Auditor summary of identified exceptions.*

## Recommendations

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

- 7.1 Direct UCM to update its current pre-award procedures and internal controls for reviewing NSF proposal budgets to ensure that all costs included in the participant support cost budget comply with NSF terms and conditions.
- 7.2 Direct UCM to establish clear guidance regarding the allowable uses of participant support cost funding. This guidance should address how to segregate and account for costs that cannot be covered with participant support cost funding, such as costs incurred for employee salaries, non-participant expenses, and workshops.

**University of California, Merced Response:** Although UCM did not state whether it agreed with this finding, it did note that it has implemented procedures and internal

controls for reviewing NSF proposal budgets to ensure all costs included in the participant support cost budget comply with NSF terms and conditions.

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

### **FINDING 8: NON-COMPLIANCE WITH UCM POLICIES**

UCM did not always comply with—or did not always document its compliance with—its internal effort reporting, travel, cost transfer, procurement card, subaward, and indirect cost policies and procedures when incurring expenses charged to NSF awards.

#### ***Non-Compliance with UCM Effort Reporting Policies***

We identified 54 instances in which UCM did not comply with its internal effort reporting policies and procedures, which require that individuals certify their effort within 120 days after the end of the reporting period,<sup>52</sup> as illustrated in Table 29.

UCM stated that it did not accurately create or certify effort reports for 2018, 2019, and part of 2020 as a result of issues related to its transition to the UC Path payroll and human resources system.<sup>53</sup> Specifically, UCM noted that, although it was able to fix the issues and obtain late certifications for the majority of the effort reports, it did not obtain certifications in instances where the individual(s) responsible for certifying the original effort reports had left UCM. This issue resulted in 54 instances in which individuals certified their effort late, including 12 instances in which the individual did not certify their effort until after we requested the certification as part of our audit.

**Table 29: Non-Compliance with UCM Effort Reporting Policies**

NSF Award No.	Effort Reporting Period	Effort Reporting Due Date	Effort Reporting Certification Date	Number of Days Past Due
██████	8/17/2016 - 12/20/2016	4/19/2017	5/24/2019	765
██████	8/16/2017 - 12/15/2017	4/14/2018	11/2/2018	202
██████	8/16/2017 - 12/15/2017	4/14/2018	8/16/2018	124
██████	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
██████	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
██████	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
██████	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
██████	8/16/2017 - 12/15/2017	4/14/2018	9/20/2018	159

<sup>52</sup> University of California Office of the President (UCOP) Policy P-196-13, *Payroll: Attendance, Time Reporting and Leave Accrual Records*, Section V.A.3., states that the University shall require all confirmation of personnel services to be completed in a timely manner within 120 days of the end of the reporting period, and that failure to complete confirmation within 120 days may result in the campus taking action to reverse charges on the award. Further, late confirmation reviews must be fully explained and justified by the PI and approved by the Vice Chancellor-Research.

<sup>53</sup> Per UCM, the UC system has been rolling out the UC Path payroll and human resources system for several years. UCM was one of the first campuses to go live with UC Path in December 2017/January 2018.

NSF Award No.	Effort Reporting Period	Effort Reporting Due Date	Effort Reporting Certification Date	Number of Days Past Due
	8/16/2017 - 12/15/2017	4/14/2018	8/5/2018	113
	8/16/2017 - 12/15/2017	4/14/2018	8/2/2018	110
	8/16/2017 - 12/15/2017	4/14/2018	3/2/2019	322
	8/16/2017 - 12/15/2017	4/14/2018	9/20/2018	159
	8/16/2017 - 12/15/2017	4/14/2018	3/2/2019	322
	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
	8/16/2017 - 12/15/2017	4/14/2018	11/3/2021	1299
	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
	8/16/2017 - 12/15/2017	4/14/2018	10/19/2018	188
	8/16/2017 - 12/15/2017	4/14/2018	8/7/2018	115
	8/16/2017 - 12/15/2017	4/14/2018	8/16/2018	124
	8/16/2017 - 12/15/2017	4/14/2018	9/20/2018	159
	8/16/2017 - 12/15/2017	4/14/2018	3/2/2019	322
	8/16/2017 - 12/15/2017	4/14/2018	10/11/2018	180
	8/16/2017 - 12/15/2017	4/14/2018	9/20/2018	159
	1/9/2018 - 5/11/2018	9/8/2018	3/18/2019	191
	1/8/2018 - 5/11/2018	9/8/2018	5/30/2019	264
	1/8/2018 - 5/11/2018	9/8/2018	10/23/2018	45
	1/8/2018 - 5/11/2018	9/8/2018	3/2/2019	175
	1/8/2018 - 5/11/2018	9/8/2018	3/2/2019	175
	1/8/2018 - 5/11/2018	9/8/2018	3/2/2019	175
	1/8/2018 - 5/11/2018	9/8/2018	10/19/2018	41
	1/8/2018 - 5/11/2018	9/8/2018	5/12/2019	246
	1/8/2018 - 5/11/2018	9/8/2018	10/16/2018	38
	1/8/2018 - 5/11/2018	9/8/2018	10/23/2018	45
	1/8/2018 - 5/11/2018	9/8/2018	1/14/2019	128
	5/21/2018 - 8/10/2018	12/8/2018	7/29/2019	233
	5/21/2018 - 8/10/2018	12/8/2018	11/2/2021	1060
	5/21/2018 - 8/10/2018	12/8/2018	2/20/2021	805
	5/21/2018 - 8/10/2018	12/8/2018	5/21/2019	164
	5/21/2018 - 8/10/2018	12/8/2018	11/5/2021	1063
	5/21/2018 - 8/10/2018	12/8/2018	5/21/2019	164
	5/21/2018 - 8/10/2018	12/8/2018	5/24/2019	167
	5/21/2018 - 8/10/2018	12/8/2018	5/30/2019	173

NSF Award No.	Effort Reporting Period	Effort Reporting Due Date	Effort Reporting Certification Date	Number of Days Past Due
	5/21/2018 - 8/10/2018	12/8/2018	7/11/2019	215
	5/21/2018 - 8/10/2018	12/8/2018	6/17/2019	191
	5/21/2018 - 8/10/2018	12/8/2018	6/17/2019	191
	5/21/2018 - 8/10/2018	12/8/2018	6/17/2019	191
	5/27/2019 - 8/16/2019	12/14/2019	11/2/2021	689
	5/27/2019 - 8/16/2019	12/14/2019	1/3/2022	751
	1/14/2020 - 5/25/2020	9/22/2020	11/3/2021	407
	1/14/2020 - 5/25/2020	9/22/2020	11/2/2021	406
	1/14/2020 - 5/25/2020	9/22/2020	11/3/2021	407
	1/14/2020 - 5/25/2020	9/22/2020	11/2/2021	406
	5/26/2020 - 8/14/2020	12/12/2020	9/20/2021	282
	5/26/2020 - 8/14/2020	12/12/2020	11/2/2021	325

Source: Auditor summary of identified exceptions.

### ***Non-Compliance with UCM Travel Policies***

We identified eight instances in which UCM did not comply with its internal travel policies and procedures, which require that travel reimbursements be (1) submitted within 45 days after the end of a trip, (2) accompanied by an Entertainment Check Request form for business meals, (3) supported by advance approval for using surface transportation in lieu of air travel, and (4) approved by the department head or other designee,<sup>54</sup> as illustrated in Table 30.

**Table 30: Non-Compliance with UCM Travel Policies**

Expense Date	NSF Award No.	Fiscal Year	Travel Policy Compliance Exception	Notes
November 2017		2018	Expense Report Not Submitted Timely	<b>a</b>
March 2018		2018	Expense Report Not Submitted Timely	<b>b</b>
March 2018		2018	Expense Report Not Submitted Timely and Appropriate Approval Not Received	<b>c</b>
April 2018		2018	Appropriate Approval Not Received and Appropriate Documentation Not Completed for Business Meals	<b>d</b>
April 2018		2018	Expense Report Not Submitted Timely	<b>e</b>

<sup>54</sup> Per UC Policy G-28, *Travel Regulations*, Section V.I.1., personnel must submit a travel expense claim to the disbursements/travel accounting office within a reasonable amount of time, not to exceed 45 days after the end of a trip. In addition, Section IV requires that travel expense claims be approved by the department heads or another person delegated authority by the Chancellor, and Section V.D.1e states a traveler may use surface transportation in lieu of air travel if they obtain advance approval. Further, UC Policy BUS-79, *Expenditures for Business Meetings, Entertainment, and Other Occasions*, Section V.B., states that personnel must submit reimbursement requests for business-related meals on the appropriate Entertainment Check Request form, including (1) detailing the type of expense, type of event, number of participants, date and location of the event, and purpose of the event, and (2) including a signature, printed name, and department of the department head or approving authority.

Expense Date	NSF Award No.	Fiscal Year	Travel Policy Compliance Exception	Notes
October 2018		2019	Expense Report Not Submitted Timely	f
June 2019		2019	Appropriate Approval Not Received	g
August 2019		2020	Appropriate Approval not Received	h

Source: Auditor summary of identified exceptions.

- a) The PI of NSF Award No. [REDACTED] returned from award-related conference travel in [REDACTED], on September [REDACTED] 2017, but did not submit their expense report until December [REDACTED] 2017 (63 days after the trip ended).
- b) The PI of NSF Award No. [REDACTED] returned from award-related conference travel on December [REDACTED] 2017, but did not submit their expense report until March [REDACTED] 2018 (72 days after the trip ended). Further, the expense report was approved by a Research Administrator within the department instead of the Department Head or another individual delegated proper authority, as required by UCM policy.
- c) A graduate student researcher who performed work on NSF Award No. [REDACTED] returned from award-related travel to attend an [REDACTED] conference in [REDACTED], and research meetings in [REDACTED] and [REDACTED] on February [REDACTED] 2018, but did not submit their expense report until April [REDACTED], 2018 (59 days after the trip ended).
- d) In April 2018, UCM charged NSF Award No. [REDACTED] for \$1,716 in travel expenses incurred to enable the PI to attend a conference in [REDACTED] CA. Although the travel appears to have benefited the award charged, UCM did not provide documentation to support that the traveler (1) received approval for using surface transportation in lieu of air travel, or (2) appropriately completed an Entertainment Check Request form for two meal expenses that benefited multiple individuals, as required by UCM policy.
- e) A graduate student researcher who performed work on NSF Award No. [REDACTED] returned from award-related travel to attend an [REDACTED] meeting in [REDACTED], on March 6, 2018, but did not submit their expense report until April 24, 2018 (49 days after the trip ended).
- f) Research team members who performed work on NSF Award No. [REDACTED] returned from award-related travel to attend an [REDACTED] workshop in [REDACTED], on July [REDACTED], 2018, but did not submit their expense report until October [REDACTED] 2018 (90 days after the trip ended).
- g) In June 2019, UCM charged NSF Award No. [REDACTED] for \$1,455 in travel expenses incurred to enable a speaker to present at a grant-sponsored workshop. Although the travel appears to have benefited the award charged, UCM did not provide documentation to support that the expense reimbursement request was approved

by the Department Head or another individual delegated proper authority, as required by UCM policy.

- h) In August 2019, UCM charged NSF Award No. [REDACTED] for \$2,475 in travel expenses incurred to enable a graduate student to attend a workshop. Although the travel appears to have benefited the award charged, the travel reimbursement was not appropriately approved by the Department Head or another individual delegated proper authority, as required by UCM policy.

***Non-Compliance with UCM Cost Transfer Policies***

We identified seven instances in which UCM did not comply with its internal cost transfer policies and procedures, which require UCM to obtain proper approval for cost transfers and to complete a Cost Transfer Form if a transfer takes place more than 120 days following the original expense date,<sup>55</sup> as illustrated in Table 31.

**Table 31: Non-Compliance with UCM Cost Transfer Policies**

Expense Date	NSF Award No.	Fiscal Year	Cost Transfer Policy Compliance Exception	Notes
December 2017	[REDACTED]	2018	Appropriate Approval Not Received/Documented	a
January 2018	[REDACTED]	2018	Appropriate Approval Not Received/Documented	b
April 2018	[REDACTED]	2018	Appropriate Approval Not Received/Documented	c
April 2018	[REDACTED]	2018	Appropriate Approval Not Received/Documented	d
May 2018	[REDACTED]	2018	Appropriate Approval Not Received/Documented	e
July 2018	[REDACTED]	2019	Appropriate Approval Not Received/Documented	f
February 2020	[REDACTED]	2020	Appropriate Approval Not Received/Documented and Cost Transfer Form Not Provided	g

Source: Auditor summary of identified exceptions.

- a) UCM did not provide documentation to support that it obtained the appropriate approval for a December 2017 cost transfer to move \$4,485 in equipment expenses to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in February 2017).

<sup>55</sup> Per UCOP *Cost and Fund Transfers*, personnel must submit requests for federal contract and grant transfers on the Cost Transfer Form, which requires additional information and approvals. Further, UCOP *Contract and Grant Manual*, Chapter 7, Section 430, states that campuses may restrict cost transfer requests that are made more than 120 days after the original charge, either by making such transfers unallowable or requiring an explanation for the delay.

- b) UCM did not provide documentation to support that it obtained the appropriate approval for a January 2018 cost transfer to move \$2,400 in expenses for sequencing services to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in January 2018).
- c) UCM did not provide documentation to support that it obtained the appropriate approval for an April 2018 cost transfer to move \$1,716 in travel expenses to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in January 2018).
- d) UCM did not provide documentation to support that it obtained the appropriate approval for an April 2018 cost transfer to move \$1,285 in travel expenses to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in January 2018).
- e) UCM did not provide documentation to support that it obtained the appropriate approval for a May 2018 cost transfer to move \$5,062 in consultant costs to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in April 2018).
- f) UCM did not provide documentation to support that it obtained the appropriate approval for a July 2018 cost transfer to move \$3,234 in research material expenses to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in April 2018).
- g) UCM did not provide documentation to support that it prepared a Cost Transfer Form for a February 2020 cost transfer to move \$9,097 in expenses to NSF Award No. [REDACTED] more than 120 days following the original expense date (originally posted in May 2019).

### **Non-Compliance with UCM Procurement Card Policies**

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We identified two instances in which UCM did not comply with its internal procurement card policies and procedures, which limit procurement card purchases to expenses less than or equal to \$2,500 and which require procurement card users to complete CatBuy “Q” class orders for procurement card purchases prior to the invoice due date,<sup>56</sup> as illustrated in Table 32.

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<sup>56</sup> Per UCM’s Procurement Cardholder Agreement, each procurement card has a pre-set spending limit, not to exceed a maximum of \$2,500 per single transaction. At least one day prior to the invoice due date, the cardholder or department staff must create a “Q” class order in the CatBuy system that contains sufficient detail to justify the purchase.

**Table 32: Non-Compliance with UCM Procurement Card Policies**

Expense Date	NSF Award No.	Fiscal Year	Procurement Card Policy Exception	Notes
November 2018	████████	2019	Procurement Card Purchase Exceeded Allowable \$2,500 Limit	<b>a</b>
April 2019	████████	2019	Procurement Card Purchase Not Supported by CatBuy “Q” Class Order	<b>b</b>

Source: Auditor summary of identified exceptions.

- a) In November 2018, UCM charged NSF Award No. ██████████ for \$2,040 in expenses incurred to purchase lab fixtures using a procurement card. However, this transaction was part of a larger purchase that totaled \$3,472, and UCM was unable to provide documentation to support that the purchaser was approved to exceed the \$2,500 procurement card threshold.
- b) In April 2019, UCM charged NSF Award No. ██████████ for \$1,847 in publication costs that UCM incurred without completing the required CatBuy “Q” class order. UCM noted that it did not create a CatBuy class order for this purchase because the payment originally posted to a default account that did not require a CatBuy Q class order.

***Non-Compliance with UCM Subaward Policy***

We identified one instance in which UCM did not comply with its internal subaward policies and procedures, which require UCM personnel to complete a signed Subaward Request Form before UCM approves a subaward,<sup>57</sup> as illustrated in Table 33.

**Table 33: Non-Compliance with UCM Subaward Policy**

Expense Date	NSF Award No.	Fiscal Year	Subaward Policy Exception	Notes
July 2017	████████	2018	Signed Subaward Request Form Not Completed	<b>a</b>

Source: Auditor summary of identified exception.

- a) UCM did not provide a signed Subaward Request Form to support a subaward agreement for ██████████ University to perform work under NSF Award No. ██████████

***Non-Compliance with UCM Indirect Cost Policy***

We identified two instances in which UCM did not comply with the indirect cost policy documented within its NICRA, which requires UCM to apply its indirect cost rate to expenses incurred for salaries/wages and materials and supplies,<sup>58</sup> as illustrated in Table 34.

<sup>57</sup> Per UCM’s Sponsored Projects Office Award Management policy, the full proposal information for a prime award that has subaward activity includes a completed and authorized Subaward Request Form.

<sup>58</sup> UCM’s NICRA states that MTDCs consist of all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward.

**Table 34: Non-Compliance with UCM Indirect Cost Policy**

Expense Date	NSF Award No.	Fiscal Year	Indirect Cost Policy Exception	Notes
June and July 2019	████████	2019 – 2020	Undergraduate Salary Expenses Excluded From MTDC Base	a
November 2019	████████	2020	Technical Support Service License Expenses Excluded From MTDC Base	b

Source: Auditor summary of identified exceptions.

- a) In June and July 2019, UCM charged NSF Award No. ██████████ for undergraduate salaries that UCM inappropriately posted to a participant support cost code that UCM had excluded from its MTDC base.
- b) In November 2019, UCM charged NSF Award No. ██████████ for a technical support service license expense that UCM inappropriately posted to an equipment expense code that was excluded from UCM’s MTDC base.

**Conclusion**

UCM did not have sufficient policies and procedures or internal controls in place to ensure that it consistently complied with its effort reporting, travel, cost transfer, procurement card, subaward, and indirect cost policies and procedures.

Because these instances of non-compliance did not directly result in UCM charging unallowable costs to NSF awards, we are not questioning any costs for these exceptions; however, we are noting 74 instances of non-compliance with UCM policies when charging costs to 38 NSF awards, as illustrated in Table 35.

**Table 35: Finding 8 Summary: Non-Compliance with UCM Policies**

NSF Award No.	Compliance Exception Identified	Fiscal Year
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2017
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018
████████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	2018





NSF Award No.	Compliance Exception Identified	Fiscal Year
	Non-Compliance with UC Travel Regulations	2018
	Non-Compliance with UC Travel Regulations	2018
	Non-Compliance with UC Travel Regulations	2018
	Non-Compliance with UC Travel Regulations	2018
	Non-Compliance with UC Travel Regulations	2019
	Non-Compliance with UC Travel Regulations	2019
	Non-Compliance with UC Travel Regulations	2020
	Non-Compliance with UCOP Cost and Fund Transfers	2018
	Non-Compliance with UCOP Cost and Fund Transfers	2018
	Non-Compliance with UCOP Cost and Fund Transfers	2018
	Non-Compliance with UCOP Cost and Fund Transfers	2018
	Non-Compliance with UCOP Cost and Fund Transfers	2018
	Non-Compliance with UCOP Cost and Fund Transfers	2019
	Non-Compliance with UCOP Cost and Fund Transfers	2020
	Non-Compliance with UCM Procurement Cardholder Agreement	2019
	Non-Compliance with UCM Procurement Cardholder Agreement	2019
	UCM Sponsored Projects Office Award Management Policy	2018
	Non-Compliance with UCM's NICRA	2019/2020
	Non-Compliance with UCM's NICRA	2020

Source: Auditor summary of identified exceptions.

## Recommendations

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

- 8.1 Direct UCM to strengthen its administrative and management procedures to ensure employees certify effort within 120 days of the end of the reporting period.
- 8.2 Direct UCM to strengthen its administrative and management procedures for travel expenses to ensure travelers submit expense reports within 45 days of completing the trip, obtain appropriate approval for exceptions and reimbursements, and complete documentation required to support travel expenses in accordance with UCM policy.
- 8.3 Direct UCM to strengthen its administrative and management procedures for cost transfers to ensure it does not transfer costs to an award without first obtaining the appropriate documentation and approval.
- 8.4 Direct UCM to strengthen its administrative and management procedures and internal controls for using procurement cards on sponsored funding purchases. Updated processes could include the following:

- Conducting annual training for individuals who have procurement cards to ensure they are aware of the maximum dollar thresholds allowable for procurement card transactions, as well as the documentation they must complete before initiating a purchase.
  - Implementing an additional level of review to ensure that all purchases made with a procurement card are compliant with UCM policies prior to charging expenses to sponsored awards.
- 8.5 Direct UCM to strengthen its administrative and management procedures for subawards to ensure that it appropriately completes the Subaward Request Form prior to charging subawardee costs to NSF awards.
- 8.6 Direct UCM to strengthen its administrative and management procedures and internal controls for reviewing whether expenses are eligible for inclusion in the Modified Total Direct Cost base. Updated processes could include the following:
- Requiring that personnel manually review purchases below UCM’s capitalization threshold to ensure UCM has appropriately expensed the purchases and included them in the Modified Total Direct Cost base.
  - Conducting annual training regarding the treatment of licenses under the equipment threshold, including how to determine when to treat costs as equipment.

**University of California, Merced Response:** Although UCM did not state whether it agreed with the findings related to non-compliance with its effort reporting, travel, cost transfer, subaward, and indirect cost policies, UCM did agree to strengthen its procedures in each of these areas to ensure future compliance with its internal policies. However, UCM stated that it disagreed with the two compliance exceptions related to its procurement card policies, noting that its policies state that UCM **can** use procurement cards to procure low-dollar items, but that it is not required to do so [emphasis UCM’s].

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. Specifically, because UCM did not disagree with the compliance exceptions we identified in areas other than the procurement card policies, our position regarding those exceptions has not changed. With regard to UCM’s disagreement with the exceptions we identified related to its procurement card policies, because the exceptions identified did not relate to whether UCM was required to use a procurement card, but rather to whether UCM had followed its policies when it did use a procurement card, our position regarding these exceptions has not changed.

COTTON & COMPANY ASSURANCE AND ADVISORY LLC



Megan Mesko, CPA, CFE  
Partner  
April 7, 2022

**APPENDIX A: UCM'S RESPONSE**

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UNIVERSITY OF CALIFORNIA, MERCED  
5200 North Lake Road  
MERCED, CA 95343

UCM Response to Audit Findings

**Finding 1: Unallowable Expenses**

Unallowable Salaries

UCM charged six NSF awards for \$91,062 in unallowable salary expenses related to salary earned after NSF awards expired, salary not included on certified effort reports, and salary paid at amounts that were not based on the employee’s Institutional Base Salary (IBS), as illustrated in Table 3.

**UCM Response:** UCM agrees that some of the salaries noted in the report are unallowable and UCM agrees to remedy these findings by reimbursing the NSF (noted in the table below). UCM will strengthen monitoring and approvals of salaries charged in the grants area and will update our internal procedures for certifying effort reports.

However, UCM disagrees with the finding on three of the six cases noted below. In these three cases, salaries paid in January 2018 were not reflected in the detail salary schedule tied to the effort reports. This happened due to difficulties encountered while implementing a new system-wide payroll program, including effort reporting, for the 10 campus University of California system on January 1, 2018. The UC integrated effort reporting into its systemwide payroll program and encountered data integration issues. Due to the high volume of defects occurring following implementation, it was months before effort reports were accurately reflecting pay.

The two \$564 charges associated with award [REDACTED] were for December 2017 effort paid in January 2018, and there was no reasonable method for including those payments in the effort reporting system used prior to January 1, 2018. They were fall 2017 expenses, they benefited the award and were reasonable.

The \$3,164 (wages plus fringe benefits plus IDC) charged to award [REDACTED] was for January 2018 effort paid in January 2018 that was not reflected in the compensation details attached to the spring 2018 effort report. This was a defect related to the payroll system implementation. However, the \$1,947.50 wage expense was appropriately posted to the payroll subledger and GL as an expense of this project.

Additionally, the amount of the payment was consistent with the other payments noted in the effort report certified for the spring 2018 term and the other amounts paid this employee during the period. The following is an excerpt from the payroll subledger:

EMPLOYEE NAME	EARN END DATE	PAY CYCLE	TIME HRS	COMP RATE	FINANCIAL_AMOUNT
[REDACTED]	[REDACTED]/2018	M	92	1,943.605	1,947.50
[REDACTED]	[REDACTED] 2018	M	80	1,943.605	1,947.50
[REDACTED]	[REDACTED]/2018	M	87.82	1,943.605	1,943.61
[REDACTED]	[REDACTED] 2018	M	83.83	1,943.605	1,943.61
[REDACTED]	[REDACTED]/2018	M	0	1,943.605	3.89
Total					7,786.11

The effort report reflects the following:

Sponsored Projects												
Original Effort % 100% <sup>1</sup>												
Project NSF [REDACTED]												
Pay	Pay Cycle	FAU	Earn	Restate	Job/	Comp/Pay	Basis	Pay	Paid %	Derived	Weighted	
Period	Code		/DOS	/Trans	Title	/Rate	/Type	Amount	/Hours	Effort %	Effort %	
[REDACTED]/2018 M	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$1,943.60	S	1,947.50	0.5	0.5	0.5	
[REDACTED]/2018 M	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$1,943.60	S	1,943.61	0.499	0.499	0.499	
[REDACTED]/2018 M	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$3,895.00	S	3.89	0	0	0	
[REDACTED]/2018 M	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$3,895.00	S	1,943.61	0.499	0.499	0.499	
											<b>Total:</b>	<b>1.4980*</b>

<sup>1</sup> Line Item Total/Report Total = Original Effort % (1.4980/1.4980 = 1.0000)

NSF Award No.	Unallowable Salary	UCM Response
[REDACTED]	\$694	UCM agrees to reimburse the NSF
[REDACTED]	1,240	UCM agrees to reimburse the NSF
[REDACTED]	21,068	UCM agrees to reimburse the NSF
[REDACTED]	564	UCM disagrees with this finding as noted above
[REDACTED]	564	UCM disagrees with this finding as noted above
[REDACTED]	22,488	UCM agrees to reimburse the NSF
[REDACTED]	0	
[REDACTED]	2,271	UCM agrees to reimburse the NSF
[REDACTED]	3,164	UCM disagrees with this finding as noted above
[REDACTED]	6,110	UCM agrees to reimburse the NSF
[REDACTED]	32,899	UCM agrees to reimburse the NSF

Unallowable Duplicate Expenses

UCM charged two NSF awards for \$9,033 in duplicate expenses, as illustrated in Table 4.

UCM Response: UCM agrees with the finding that two NSF awards for \$9,033 were charged with duplicate expenses and thus agrees to reimburse the NSF. UCM has internal controls in place for expense approval and believes that the two findings noted below do not necessarily indicate a lack of internal controls as each of the expenditures submitted for payment were properly authorized and had adequate back up. However, we will ensure that other mitigating controls are consistently applied to all funds including monitoring charges holistically when monthly reconciliations are performed. UCM agrees to reimburse the NSF for these duplicate expenses.

NSF Award No.	Unallowable Total	UCM Response
[REDACTED]	\$9,003	UCM agrees to reimburse the NSF
[REDACTED]	30	UCM agrees to reimburse the NSF

Unallowable Publication Expenses

UCM charged two NSF awards for \$6,471 in publication expenses that were not allowable because the published articles did not acknowledge the NSF awards charged, as illustrated in Table 5.

UCM Response: UCM agrees that two NSF awards for \$6,471 were used to cover unallowable publication costs and thus agrees to reimburse the NSF. UCM has clear guidance on publication expenses in place and

will continue to provide training and guidance to the RAs and PIs about the NSF requirement of acknowledging the funding sources when approving publication expenses.

Publication Expense	NSF Award Acknowledged in Publication	NSF Award Charged for Publication Expense	UCM Response
\$2,596			UCM agrees to reimburse the NSF
3,875			UCM agrees to reimburse the NSF

Unallowable Travel Expenses

UCM charged five NSF awards for \$5,642 in unallowable travel expenses, as illustrated in Table 6.

UCM Response: UCM agrees with the finding that five NSF awards for \$5,642 were charged with unallowable travel expenses and thus agrees to reimburse the NSF. UCM will provide additional training on travel-related charges to those individuals and areas where findings were noted.

NSF Award No.	Unallowable Total	UCM Response
	\$30	UCM agrees to reimburse the NSF
	1,117	UCM agrees to reimburse the NSF
	1,286	UCM agrees to reimburse the NSF
	37	UCM agrees to reimburse the NSF
	3,172	UCM agrees to reimburse the NSF

Unallowable Use of Participant Support Cost Funding

UCM used \$2,353 in participant support cost funding awarded on three NSF awards to cover non-participant or other unallowable expenses, as illustrated in Table 7.

UCM Response: UCM agrees that three NSF awards for \$2,353 were used to cover non-participant or other unallowable expenses and thus agrees to reimburse the NSF. UCM will strengthen our internal procedures and clearly define what allowable participant costs are. Future requests for participant support costs will be audited against the refined definition.

NSF Award No.	Unallowable Total	UCM Response
	\$860	UCM agrees to reimburse the NSF
	94	UCM agrees to reimburse the NSF
	399	UCM agrees to reimburse the NSF
	1,000	UCM agrees to reimburse the NSF

Unallowable Stipend Payment

UCM charged one NSF award for \$1,590 in unreasonable, and therefore unallowable, stipend expenses, as illustrated in Table 8.

UCM Response: UCM agrees that \$1,590 in unallowable stipend expenses were charged against one NSF grant and thus agrees to reimburse the NSF for this charge. UCM will strengthen internal audit procedures to mitigate this risk on future stipend payments.

NSF Award No.	Unallowable Total	UCM Response
	\$1,590	UCM agrees to reimburse the NSF

Unallowable Consultant Expense

UCM charged one NSF award for consultant expenses that it did not appropriately verify were allowable, as illustrated in Table 9.

**UCM Response:** UCM agrees with the finding and will require Principal Investigators and other designated staff to validate and audit expenses billed by consultants to ensure the expenses are consistent with the appropriate payment terms and conditions prior to charging expenses to NSF.

**Finding 2: Inappropriately Allocated Expenses**

UCM was unable to support that it always allocated expenses to NSF awards based on the relative benefits the awards received, as required by both federal regulations and NSF PAPPGs. As a result, UCM inappropriately charged eight NSF awards a total of \$71,463 in purchases near grant expiration and publication expenses.

Inappropriately Allocated Purchases Near Grant Expiration

UCM inappropriately charged four NSF awards for \$60,451 in expenses associated with purchases made near the awards' expiration dates, when UCM had little or no time to use the purchases to benefit the awards, as illustrated in Table 11.

**UCM Response:** UCM disagrees with four of the six expenditure findings. UCM agrees that two of the expenditures, as noted in the table below, are inappropriately allocated and will thus reimburse the NSF for those two findings. UCM has strengthened our internal procedures to address the auditor's recommendations, including the establishment of a standard documentation and retention process to support the allocation of costs benefitting multiple awards..

NSF Award No.	Amount Improperly Allocated	UCM Response
██████	\$5,482	UCM disagrees with this finding. The budget for this award did not contain line item requiring the purchase of a centrifuge because the PI had access to a centrifuge through another faculty member. However, that other faculty member left the University in mid-2018, taking his centrifuge with him. To complete the project, an identical replacement centrifuge was purchased, and according to freight records the new centrifuge was received 8/3/2018, four weeks before the end of the award period. The cost of the new equipment was split 65:35 with another project. Once the equipment was received, the required research was conducted to complete this project. The centrifuge also contributed to the foundation of another publication, which references the NSF award funding for this project.
██████	2,505	UCM agrees to reimburse the NSF
██████	5,344	UCM disagrees with this finding. The purchase, included in the original budget, benefitted the award as the purpose of the award was to build an instrument that would benefit future research projects. Two publications on characterization of DNA at surface were published after the end of the no-cost extension. Those two papers acknowledged support of this NSF award.
██████	9,793	UCM agrees to reimburse the NSF
██████	5,167	UCM disagrees with the finding. Consistent with the explanation provided below, a purchase order was sent to vendor ██████ for a dual socket storage server on 9/26/2019. This server was

		required after the project encountered performance issues when doing computational simulations. The request for no-cost extension noted those issues and the need to make this purchase near to the end of the POP, and that extension was approved. As to the cost charged to this award, at the end of the POP there was only \$5,167 of unspent award funds and the PI had no choice but to pay the amount in excess of \$5,167 with other funds. The server enabled the team to complete the project and was instrumental in the development of two publications and one student dissertation, all which acknowledged support from this award.
██████	32,160	UCM disagrees with the finding. A purchase order for the purchase of 4 compute nodes was transmitted to vendor ██████ on 10/31/2019. Those nodes were expected to be delivered prior to 12/31/2019 but were delayed. Regardless, the nodes were required as the project encountered performance issues when doing computational simulations. The request for no-cost extension noted those issues and the need to make this purchase near to the end of the POP, and that extension was approved. The compute nodes enabled the team to complete the project and were instrumental in the development of two publications and one student dissertation, all which acknowledged support from this award.

**Inappropriately Allocated Publication Costs**

UCM charged four NSF awards for \$11,012 in publication costs that UCM did not allocate based on the relative benefits received by each project that sponsored the published research, as illustrated in Table 12.

**UCM Response:** UCM agrees that three NSF awards in the amount of \$7,889 were charged for publications that were not necessarily allocated based on the relative benefits received by each project that sponsored the published research, as such, UCM will reimburse the NSF for 50% of this charge based on what we believe is a reasonable split. UCM disagrees that one NSF award was charged \$3,123 in costs that benefitted other projects (as explained in the table below).

UCM will develop an internal process to strengthen the allocation of publication costs among active funding sources.

<i>Amount Charged</i>	<i>NSF Award Charged</i>	<i>UCM Response</i>
2,286	██████	UCM agrees to reimburse the NSF 50% of the charge
2,542	██████	UCM agrees to reimburse the NSF 50% of the charge
3,061	██████	UCM agrees to reimburse the NSF 50% of the charge
3,123	██████	UCM disagrees with this finding. The other projects acknowledged in the publication provided graduate student mentoring which benefitted this project and the associated publication. The publication did not benefit the other awards – it merely acknowledged their contributions. Thus, the other awards should not be charged publication costs.

**Finding 3: ACMS Drawdowns Exceed Expenses**

UCM drew down funds on 21 NSF awards from NSF’s Award Cash Management Service (ACMS) that were not appropriately returned to NSF and/or that were not drawn down in compliance with federal regulations and NSF PAPPGs.

Expenses Claimed in ACMS Exceed Accumulated Expenses

UCM charged six NSF awards for \$15,466 in drawdowns that were not supported by the total expenses UCM had accumulated for these awards within its accounting system as of the end of our audit period, as illustrated in Table 14.

**3.1 UCM Response:** UCM agrees that six NSF awards for \$15,466 in drawdowns were not supported by the total expenses; UCM has already remedied this finding by establishing and internal process to monitor drawdown activity to ensure that credits posted during the award close-out process are appropriately returned to NSF. UCM has already repaid the NSF for these excess accumulated expenses in January 2021.

NSF Award No.	Discrepancy	UCM Response
██████	\$5,286	Agreed – amount was repaid to the NSF in January 2021
██████	2,085	Agreed – amount was repaid to the NSF in January 2021
██████	406	Agreed – amount was repaid to the NSF in January 2021
██████	1,332	Agreed – amount was repaid to the NSF in January 2021
██████	2,679	Agreed – amount was repaid to the NSF in January 2021
██████	3,678	Agreed – amount was repaid to the NSF in January 2021

Costs Written Off in the AP Subledger Not Returned to NSF

UCM did not appropriately return \$4,401 in funding that it drew down under seven NSF awards for costs posted to its GL that were written off in its AP subledger. Specifically, the total AP expenses UCM posted to its GL during the audit period exceeded the total AP expenses it had posted to its AP subledger for seven NSF awards as a result of UCM writing off AP expenses, as illustrated in Table 15.

**UCM response:** UCM agrees that stale-dated vendor payments created instances where \$4,401 in funding previously included in draw-down calculations for seven NSF awards were not appropriately returned. UCM agrees to reimburse the NSF for \$4,401. UCM has recently refined its stale-dated check internal procedure to ensure that charges reversed due to stale-dated checks reverse to the original funding source and thus will refund to the appropriate funding agency.

NSF Award No.	Discrepancy	UCM Response
██████	\$170	UCM agrees to reimburse the NSF
██████	25	UCM agrees to reimburse the NSF
██████	533	UCM agrees to reimburse the NSF
██████	2,822	UCM agrees to reimburse the NSF
██████	49	UCM agrees to reimburse the NSF
██████	612	UCM agrees to reimburse the NSF
██████	190	UCM agrees to reimburse the NSF

ACMS Draws Exceeded Immediate Cash Needs

UCM's ACMS draws on eight NSF awards exceeded its immediate cash needs during one or more ACMS draw periods because UCM did not appropriately calculate its ACMS draw amounts based on immediate cash needs, as illustrated in Table 16.

**UCM Response:** UCM disagrees with the conclusion made by the auditors that ACMS draws on eight NSF awards exceeded our immediate cash needs during one or more ACMS draw periods. However, UCM

will review, and if deemed appropriate, strengthen our administrative and management internal controls and processes over our Award Cash Management Service reconciliation process.

Award No.	ACMS Payment Request Date	Total ACM\$ Draw	Total Supported by UC-M's GL	Excess Funds Drawn
██████	7/18/2018	\$591,113	\$588,308	\$2,805
██████	9/16/2014	353,890	300,086	53,804
██████	9/17/2014	331,701	300,086	31,615
██████	10/28/2016	968,853	967,167	1,686
██████	1/23/2017	1,010,719	1,001,153	9,566
██████	9/14/2018	1,370,395	1,367,650	2,745
██████	10/23/2018	1,372,669	1,368,444	4,225
██████	12/20/2018	1,373,480	1,370,144	3,336
██████	9/17/2014	117,383	91,298	26,085
██████	9/16/2014	130,426	91,298	39,128
██████	9/16/2014	64,451	49,773	14,678
██████	9/17/2014	59,558	49,773	9,785
██████	9/16/2014	28,357	21,271	7,086
██████	9/17/2014	25,521	21,271	4,250
██████	7/10/2015	179,243	176,034	3,209
██████	6/30/2017	813,364	774,113	39,251
██████	8/15/2017	962,251	960,523	1,728
██████	12/7/2017	1,266,327	1,265,784	543
██████	3/22/2018	1,496,237	1,492,609	3,628
██████	4/18/2018	1,561,232	1,558,332	2,900
██████	5/30/2018	1,775,781	1,774,693	1,088
██████	7/18/2018	1,932,902	1,925,225	7,677
██████	8/14/2018	2,039,177	2,038,577	600
██████	10/23/2018	2,288,646	2,285,591	3,055
██████	12/20/2018	2,433,484	2,431,595	1,889
██████	2/20/2019	2,621,030	2,620,027	1,003
██████	5/13/2019	2,854,742	2,854,228	514
██████	7/30/2019	2,860,629	2,842,874	17,755
██████	10/1/2019	3,170,949	3,170,008	941
██████	3/22/2018	7,000	-	7,000
██████	12/20/2018	238,000	102,000	136,000
██████	11/7/2019	7,461	4,627	2,834

**Finding 4: Inadequately Supported Expenses**  
Inadequately Supported Salary Expenses

UCM did not provide adequate documentation to support the allowability of \$10,364 in salary expenses charged to one NSF award, as required by federal regulations, as illustrated in Table 18.

**UCM Response:** UCM believes these payments to students benefitted the award and agrees that they were not processed through Payroll as they should have been. UCM will review, and as appropriate, strengthen internal procedures to ensure payments to students for services rendered are appropriately paid.

Expense Date	NSF Award No.	Inadequately Supported Expenses	UCM Response
June & July 2019	██████████	10,364	UCM agrees in part with the finding. As these expenses benefitted the award and no indirect costs were charged, we ask for a one-time exception for the need to reimburse the NSF for these costs.

Inadequately Supported Consultant Expenses

UCM did not provide adequate documentation to support the allowability of \$3,720 in consultant expenses charged to one NSF award. Specifically, the consultant’s invoice did not support the rates or quantities that the service provider billed, as required for the costs to be allowable per federal regulations and the applicable NSF PAPPG, as illustrated in Table 19.

**UCM Response:** UCM agrees that adequate documentation to support the allowability of \$3,720 in consultant expenses charged to one NSF award was not provided during the audit. However, UCM wants it noted that the rates and quantities charged to this grant were by another UC campus who, due to the ongoing pandemic and related remote work constraints, were unable to locate supporting documents. UCM will reevaluate internal procedures to consider remote work and related challenges for record retention.

Expense Date	NSF Award No.	Inadequately Supported Expenses	UCM Response
January 2018	██████████	\$3,720	UCM agrees to reimburse the NSF

Inadequately Supported Travel Expenses

UCM did not provide adequate documentation to support that \$3,202 in travel costs charged to one NSF award were allowable per federal regulations, as illustrated in Table 20.

**UCM Response:** UCM agrees that we were unable to locate adequate documentation supporting \$3,202 in travel costs charged to one NSF award and thus we agree to reimburse the NSF. UCM employs appropriate document retention controls but the ongoing pandemic and related remote workplace requirement that still limits our ability to access records.

Expense Date	NSF Award No.	Inadequately Supported Expenses	UCM Response
November 2017	██████████	\$2,000	UCM agrees to reimburse the NSF
November 2017	██████████	1,202	UCM agrees to reimburse the NSF

Inadequately Supported Publication Expenses

UCM did not provide adequate documentation to support the allowability of \$206 in publication expenses charged to one NSF award, as illustrated in Table 21.

UCM Response: UCM agrees that we were unable to locate adequate documentation supporting the allowability of \$206 in publication expenses charged to one NSF award and thus we agree to reimburse the NSF. UCM, as mentioned above, has appropriate document retention procedures in place to limit situations like this from occurring in a normal, non-pandemic work environment.

Expense Date	NSF Award No.	Inadequately Supported Expenses	UCM Response
April 2019	[REDACTED]	\$206	UCM agrees to reimburse the NSF

**Finding 5: Indirect Costs Inappropriately Applied**

UCM charged one NSF award for \$482 in indirect costs that UCM inappropriately applied to participant support costs. UCM should not have included participant support costs as Modified Total Direct Costs (MTDCs), to which indirect costs are applied, per federal regulations, NSF PAPPGs, and UCM’s Negotiated Indirect Cost Rate Agreements (NICRAs), as illustrated in Table 23.

UCM Response: UCM agrees that one NSF award for \$482 was charged indirect costs that were inappropriately applied to participant support costs and will therefore reimburse the NSF. This was a one-time error. However, UCM will strengthen procedures to ensure that proper classification of expenditures is reviewed against stated budget when monthly reconciliations are performed.

Expense Date	NSF Award No.	Indirect Costs Inappropriately Applied	UCM Response
June 2019	[REDACTED]	\$482	UCM agrees to reimburse the NSF

**Finding 6: Payroll Subledger Expenses that Exceeded General Ledger Payroll Expenses**

Although federal regulations require that grantee financial management systems provide accurate, current and complete disclosure of financial results, UCM’s GL did not accurately report \$9,438 in payroll expenses it had recorded in its payroll subledger on two NSF awards, as illustrated in Table 25.

UCM Response: UCM agrees that our GL did not accurately report \$9,438 in payroll expenses that had been recorded in our payroll subledger for two NSF awards. UCM will strengthen our internal procedures to ensure that monthly reconciliations performed include a subledger to GL review.

NSF Award No.	Discrepancy
[REDACTED]	\$5,454
[REDACTED]	3,984

**Finding 7: Inappropriately Budgeted Participant Support Costs**

UCM did not always appropriately budget, and therefore spend, participant support cost funds in accordance with NSF PAPPGs, UCM policy, and federal regulations, as illustrated in Table 27.

7.1 UCM Response: UCM has implemented procedures and internal controls for reviewing NSF proposal budgets to ensure that all costs included in the participant support cost budget comply with NSF terms and conditions. Additionally, these procedures address how to segregate and account for costs that cannot be covered with participant support cost funding, such as costs incurred for employee salaries, non-participant expenses, and workshops.

### **Finding 8: Non-Compliance with UCM Policies**

UCM did not always comply with—or did not always document its compliance with—its internal effort reporting, travel, cost transfer, procurement card, subaward, and indirect cost policies and procedures when incurring expenses charged to NSF awards.

#### **Non-Compliance with UCM Effort Reporting Policies**

We identified 54 instances in which UCM did not comply with its internal effort reporting policies and procedures, which require that individuals certify their effort within 120 days after the end of the reporting period, as illustrated in Table 29.

**UCM Response:** UCM, as mentioned throughout our response, encountered difficulties with timely effort reporting while implementing a new system-wide payroll program (UCPath). This payroll system impacted effort reporting for the 10 campus University of California system beginning on January 1, 2018. The data integration issues related to the program implementation made it impossible to certify these effort reports timely. UCM will strengthen its administrative and management procedures to ensure employees certify effort within 120 days of the end of the reporting period.

#### **Non-Compliance with UCM Travel Policies**

We identified eight instances in which UCM did not comply with its internal travel policies and procedures, which require that travel reimbursements be (1) submitted within 45 days after the end of a trip, (2) accompanied by an Entertainment Check Request form for business meals, (3) supported by advance approval for using surface transportation in lieu of air travel, and (4) approved by the department head or other designee, as illustrated in Table 30.

**UCM Response:** UCM will strengthen its administrative and management procedures for travel expenses to ensure travelers submit expense reports within 45 days of completing the trip, obtain appropriate approval for exceptions and reimbursements, and complete documentation required to support travel expenses in accordance with UCM policy.

#### **Non-Compliance with UCM Cost Transfer Policies**

We identified seven instances in which UCM did not comply with its internal cost transfer policies and procedures, which require UCM to obtain proper approval for cost transfers and to complete a Cost Transfer Form if a transfer takes place more than 120 days following the original expense date, as illustrated in Table 31.

**UCM Response:** UCM has strengthened administrative and management procedures for cost transfers by requiring approval and supporting documentation from PIs for all cost transfers.

#### **Non-Compliance with UCM Procurement Card Policies**

We identified two instances in which UCM did not comply with its internal procurement card policies and procedures, which require personnel to use procurement cards for expenses less than or equal to \$2,500 and to complete CatBuy “Q” class orders for procurement card purchases prior to the invoice due date, as illustrated in Table 32.

**UCM Response:** UCM disagrees with this finding. UCM does not have an internal procurement card policy or procedure that requires personnel to use procurement cards for expenses less than or equal to \$2,500 and to complete CatBuy “Q” class order for procurement card purchases prior to the invoice due date. UCM’s internal procurement card [program summary states](#), “*The Procurement Card (“PCard”) program is a charge card-based system that can be used to procure low dollar items (costing less than \$2,500 including tax, shipping and handling) or to make purchases that might otherwise require petty cash or up-front check requests*” that it ‘can’ be used to procure these items, not that it is ‘required’ to be used.

#### **Non-Compliance with UCM Subaward Policy**

We identified one instance in which UCM did not comply with its internal subaward policies and procedures, which require UCM personnel to complete a signed Subaward Request Form before UCM approves a subaward, as illustrated in Table 33.

**UCM Response:** UCM has strengthened its procedures for subawards to ensure that it completes the Subaward Request Form prior to charging sub-awardee costs to NSF awards.

**Non-Compliance with UCM Indirect Cost Policy**

We identified two instances in which UCM did not comply with the indirect cost policy documented within its NICRA, which requires UCM to apply its indirect cost rate to expenses incurred for salaries/wages and materials and supplies, as illustrated in Table 34.

**UCM Response:** UCM has already strengthened procedures in this area to ensure that the indirect cost rate applied for expenses incurred for salaries/wages and materials/supplies are applied appropriately.



Kurt Schnier  
Interim Vice Chancellor and Chief Financial Officer  
University of California, Merced

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

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## **OBJECTIVES**

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The NSF OIG Office of Audits engaged Cotton & Company (referred to as “we”) to conduct an audit survey, the objectives of which were to evaluate UCM’s award management environment, to determine whether any further audit work was warranted and recommend a path forward as described in the task order performance work statement, and to perform any additional audit work determined appropriate.

## **SCOPE**

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The audit population included approximately \$22.3 million in expenses UCM claimed on 117 NSF awards during our audit POP of September 1, 2017, to August 31, 2020.

## **METHODOLOGY**

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

### ***Audit Survey Phase***

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

- Assessing the reliability of the GL data that UCM provided by comparing the costs charged to NSF awards per UCM’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 UCM and NSF OIG. NSF OIG provided award data that UCM reported through ACM\$ during our audit period.
    - We assessed the reliability of the GL data that UCM provided by (1) comparing the costs charged to NSF awards per UCM’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that UCM submitted to NSF during the audit survey POP; and (2) reviewing the parameters that UCM used to extract transaction data from its accounting systems. We identified several discrepancies between the amounts supported by UCM’s GL and the amounts that UCM claimed per NSF’s ACM\$ system; however, we found UCM’s computer-processed data to be sufficiently reliable for the purposes of the audit survey, as UCM was able to provide justifications or additional transaction-level detail for all discrepancies identified and we did not identify any issues with the parameters that UCM 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 2020 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

- UCM provided detailed transaction-level data to support \$22,278,621 in costs charged to NSF awards during the period, which was less than the \$22,418,375 UCM claimed in ACM\$ during the audit period. This data resulted in a total audit universe of \$22,278,621 in expenses claimed on 117 NSF awards.
  - Although UCM did not provide any additional GL data to support these costs during the planning phase of the audit, in response to a potential audit finding, UCM provided documentation to support a significant portion of the previously unsupported expenses, most of which related to a Graduate Research Fellowship Program (GRFP) award. We questioned all of the ACM\$ draws that UCM was unable to support at the end of the audit in Finding 4.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information UCM and NSF OIG provided, as well as any other relevant information that was available online.
- Summarizing our understanding of federal, NSF, and UCM-specific policies and procedures surrounding costs budgeted for or charged to NSF awards and identifying the controls in place to ensure that costs charged to sponsored projects were reasonable, allocable, and allowable.
  - In planning and performing this audit, we considered UCM's internal controls, within the audit's scope, solely to understand the directives or policies and procedures UCM has in place to ensure that charges against NSF awards complied with relevant federal regulations, NSF award terms, and UCM policies.
- Evaluating the strengths and weaknesses of the policies and procedures that UCM has in place to control the inherent, fraud, and control risks identified for each budget category.
- Providing UCM with a list of 45 transactions that we selected based on the results of our data analytics and requesting that UCM provide documentation to support each transaction.
- Reviewing the supporting documentation UCM 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>59</sup> NSF,<sup>60</sup> and UCM policies.<sup>61</sup>

- Holding virtual interviews and walkthroughs with UCM in May 2021 to discuss payroll (including effort reporting), fringe benefits, travel, participant support costs, procurement, equipment (including an inventory check), GRFP, other direct costs (e.g., patent, relocation, recruiting, interest, advertising/public relations, **entertainment**, fundraising, lobbying, selling/marketing, and training costs), grant close-out procedures, subawards, ACM\$ processing, indirect costs, and other general policies (e.g., pre- and post-award costs, program income, whistle-blower information, research misconduct, and conflict of interest policies).
- Preparing an organizational risk assessment that (1) summarized the results of our planning/initial fieldwork, (2) included areas of elevated risk of noncompliance that we identified in the organization's award management environment, and (3) contained our recommendations for expanded testing.

### ***Expanded Testing Audit Phase***

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

- Conducting additional data analytics, evaluating the results of the analytics, and re-running analytical tests, as necessary.
- Selecting an additional audit sample of 50 transactions.
- Conducting additional fieldwork, which included providing the list of 50 transactions to UCM and requesting and reviewing supporting documentation until we had obtained sufficient, appropriate evidence to enable us to assess the allowability of each sampled transaction.
- Conducting additional audit work in five areas to evaluate whether UCM (1) appropriately allocated publication costs across acknowledged funding sources in each publication; (2) appropriately charged salary expenses that it did not record in its payroll subledger; (3) appropriately spent participant support cost funding; (4) appropriately drew down funding in ACM\$; and (5) appropriately charged salary expenses consistent with certified effort reports.

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<sup>59</sup> We assessed UCM's compliance with 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, and 2 CFR Part 220, *Cost Principles for Educational Institutions* (OMB Circular A-21), as appropriate.

<sup>60</sup> We assessed UCM's compliance with NSF PAPPGs 11-1, 13-1, 14-1, 15-1, 16-1, 17-1, 18-1, and 19-1 and with NSF award-specific terms and conditions, as appropriate.

<sup>61</sup> We assessed UCM's compliance with internal UCM policies and procedures surrounding costs budgeted for or charged to NSF awards.

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

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

## **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	Unallowable Expenses	\$0	\$116,151	\$116,151
2	Inappropriately Allocated Expenses	-	71,463	71,463
3	ACM\$ Drawdowns That Exceeded Expenses	-	21,064	21,064
4	Inadequately Supported Expenses	206	17,286	17,492
5	Indirect Costs Inappropriately Applied	-	482	482
6	Payroll Subledger Expenses That Exceeded General Ledger Payroll Expenses	-	-	-
7	Inappropriately Budgeted Participant Support Costs	-	-	-
8	Non-Compliance with UCM Policies	-	-	-
<b>Total</b>		<b><u>\$206</u></b>	<b><u>\$226,446</u></b>	<b><u>\$226,652</u></b>

Source: Auditor summary of questioned costs by finding.

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

NSF Award No.	No. of Transaction Exceptions	Questioned Direct Costs	Questioned Indirect Costs	Questioned Total	UCM Agreed to Reimburse
	1	\$-	\$-	\$-	\$-
	6	954	-	954	954
	2	-	9,003	9,003	9,003
	2	-	-	-	-
	7	6,751	806	7,557	7,557
	3	7,098	889	7,987	2,505
	1	2,500	1,375	3,875	3,875
	2	1,000	-	1,000	1,000
	5	1,675	921	2,596	2,596
	2	-	-	-	-
	1	-	-	-	-
	2	-	-	-	-
	1	170	-	170	170
	5	3,942	2,168	6,110	6,110
	2	5,344	-	5,344	-
	22	21,447	10,650	32,097	27,805
	8	14,840	8,162	23,002	23,002
	2	1,475	811	2,286	1,143
	2	-	-	-	-
	2	37,327	-	37,327	-
	3	-	-	-	-
	1	-	-	-	-
	2	-	-	-	-
	6	-	-	-	-
	1	25	-	25	25
	2	133	73	206	206
	1	1,603	-	1,603	1,603
	2	7,958	4,377	12,335	11,064
	1	-	-	-	-
	7	-	-	-	-
	2	533	-	533	533
	3	1,286	482	1,768	1,768
	2	1,332	-	1,332	1,332
	1	-	-	-	-
	2	2,679	-	2,679	2,679
	2	10,364	-	10,364	-
	2	-	-	-	-
	2	2,822	-	2,822	2,822
	2	2,046	1,126	3,172	3,172
	2	1,639	-	1,639	1,639
	1	-	-	-	-
	9	429	-	429	429

NSF Award No.	No. of Transaction Exceptions	Questioned Direct Costs	Questioned Indirect Costs	Questioned Total	UCM Agreed to Reimburse
	2	2,400	1,320	3,720	3,720
	2	1,975	1,086	3,061	1,530
	4	3,678	0	3,678	3,678
	1	21,225	11,674	32,899	32,899
	1	-	-	-	-
	2	-	-	-	-
	1	612	-	612	612
	2	957	160	1,117	1,117
	1	2,015	1,108	3,123	-
	1	190	-	190	190
	1	-	-	-	-
	1	37	-	37	37
<b>Grand Total</b>	<b><u>153</u></b>	<b><u>\$170,461</u></b>	<b><u>\$56,191</u></b>	<b><u>\$226,652</u></b>	<b><u>\$156,775</u></b>

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

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

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
1) Unallowable Expenses	[REDACTED]	August – December 2017 Salary	\$448	\$246	\$694	\$694
		August – December 2017 Salary	800	440	1,240	1,240
		August – December 2017 Salary	13,592	7,476	21,068	21,068
		August – December 2017 Salary	364	200	564	-
		August – December 2017 Salary	364	200	564	-
		August – December 2017 Salary	14,508	7,980	22,488	22,488
		August – December 2017 Salary	0	0	0	-
	[REDACTED]	January – May 2018 Salary	1,465	806	2,271	2,271
		January – May 2018 Salary	2,041	1,123	3,164	-
		July 2018 Salary	3,942	2,168	6,110	6,110
		May – August 2020 Salary	21,225	11,674	32,899	32,899
		June 2018 Duplicate Indirect Costs	0	9,003	9,003	9,003
		July 2019 Duplicate Travel	30	0	30	30
		January 2018 Publication	1,675	921	2,596	2,596
	[REDACTED]	July 2019 Publication	2,500	1,375	3,875	3,875
		January 2018 Vehicle Mileage Reimbursement	19	11	30	30
		October 2018 Per Diem Reimbursement	957	160	1,117	1,117
		April 2019 Unused Lodging	1,286	0	1,286	1,286
		August 2019 Airfare Upgrade	37	0	37	37
		May 2020 Trip	2,046	1,126	3,172	3,172
		March 2018 Participant Gifts	860	0	860	860
	[REDACTED]	April 2018 Non-Participant Travel	94	0	94	94
		September 2018 Non-Participant Travel	399	0	399	399
		August 2019 Non-Participant Services	1,000	0	1,000	1,000
[REDACTED]	July 2020 Stipend Payment	1,590	0	1,590	1,590	
	August 2019 Consultant	0	0	0	-	

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
2) Inappropriately Allocated Expenses	██████████	July 2018 Centrifuge	5,482	0	5,482	\$0
	██████████	August 2018 Chemicals	1,616	889	2,505	2,505
	██████████	September 2018 Laser	5,344	0	5,344	-
	██████████	April 2019 Maintenance Contract	6,318	3,475	9,793	9,793
	██████████	November 2019 Computer Supplies	5,167	0	5,167	-
	██████████	February 2020 Computer Supplies	32,160	0	32,160	-
	██████████	July 2018 Publication	1,475	811	2,286	1,143
	██████████	April 2019 Publication	1,640	902	2,542	1,271
	██████████	November 2019 Publication	1,975	1,086	3,061	1,530
	██████████	June 2020 Publication	2,015	1,108	3,123	-
3) Inappropriate ACM\$ Draw-Downs	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	5,286	0	5,286	5,286
	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	2,085	0	2,085	2,085
	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	1,603	0	1,603	1,603
	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	1,332	0	1,332	1,332
	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	2,679	0	2,679	2,679
	██████████	Expenses Claimed in ACM\$ Exceed Accumulated Expenses	3,678	0	3,678	3,678
	██████████	Costs Written off in the AP Subledger Not Returned to NSF	170	0	170	170
	██████████	Costs Written off in the AP Subledger Not Returned to NSF	25	0	25	25
	██████████	Costs Written off in the AP Subledger Not Returned to NSF	533	0	533	533
	██████████	Costs Written off in the AP Subledger Not Returned to NSF	2822	0	2822	2822

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Costs Written off in the AP Subledger Not Returned to NSF	49	0	49	49
	██████	Costs Written off in the AP Subledger Not Returned to NSF	612	0	612	612
	██████	Costs Written off in the AP Subledger Not Returned to NSF	190	0	190	190
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
	██████	ACM\$ Draws Exceeded Immediate Cash Needs	0	0	0	0
4) Indirect Costs Inappropriately Applied	██████	June – July 2019 Salary	10,364	0	10,364	0
	██████	January 2018 Consultant Services	2,400	1,320	3,720	3,720
	██████	November 2017 Lodging	1,290	710	2,000	2,000
	██████	November 2017 Airfare	776	426	1,202	1,202
	██████	April 2019 Publication	133	73	206	206
5) Indirect Costs Inappropriately Applied	██████	June 2019 Participant Lodging	0	482	482	482

<b>Finding Description</b>	<b>Award No.</b>	<b>Expense Description</b>	<b>Questioned Direct Costs</b>	<b>Questioned Indirect Costs</b>	<b>Total Questioned Costs</b>	<b>UCM Agreed to Reimburse</b>
6) Payroll Subledger Expenses Exceeded GL Payroll Expenses	██████	Payroll Subledger Expenses Exceeded GL Payroll Expenses	0	0	0	0
	██████	Payroll Subledger Expenses Exceeded GL Payroll Expenses	0	0	0	0
7) Inappropriately Budgeted Participant Support Costs	██████	August 2018 Workshop Expenses Inappropriately Budgeted	0	0	0	0
	██████	December 2018 Speaker Expenses Inappropriately Budgeted	0	0	0	0
	██████	June 2019 Speaker Expenses Inappropriately Budgeted	0	0	0	0
	██████	June 2019 Speaker Expenses Inappropriately Budgeted	0	0	0	0
	██████	June 2019 Speaker Expenses Inappropriately Budgeted	0	0	0	0
	██████	July 2019 Speaker Expenses Inappropriately Budgeted	0	0	0	0
	██████	June 2019 Co-PI Salary Expenses Inappropriately Budgeted	0	0	0	0
8) Non-Compliance with UCM Policies	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Attendance, Time Reporting, and Leave Accrual Records Policy	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0

Finding Description	Award No.	Expense Description	Questioned Direct Costs	Questioned Indirect Costs	Total Questioned Costs	UCM Agreed to Reimburse
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UC Travel Regulations	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCOP Cost and Fund Transfers	0	0	0	0
	██████	Non-Compliance with UCM Procurement Cardholder Agreement	0	0	0	0
	██████	Non-Compliance with UCM Procurement Cardholder Agreement	0	0	0	0
	██████	UCM Sponsored Projects Office Award Management Policy	0	0	0	0
	██████	Non-Compliance with UCM's NICRA	0	0	0	0
	██████	Non-Compliance with UCM's NICRA	0	0	0	0
			<b><u>\$170,461</u></b>	<b><u>\$56,191</u></b>	<b><u>\$226,652</u></b>	<b><u>\$156,775</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 Resolve the \$4,292 in questioned salary expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 1.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$111,859 in questioned salary, duplicate, publication, travel, and participant support costs for which it has agreed to reimburse NSF.
- 1.3 Direct UCM to provide training regarding its policy requirements for charging salary to NSF awards to ensure personnel do not charge payroll to expired awards, additional compensation is appropriately supported and included in the effort reports, and employees appropriately certify effort reports to support the amount charged to federally sponsored programs.
- 1.4 Direct UCM to update its policies, procedures, and internal controls for certifying effort reports. The guidance could further include requirements for verifying that employees have certified their effort before charging the employees' salary expenses to sponsored awards.
- 1.5 Direct UCM to strengthen its administrative and management processes for ensuring that it does not charge duplicate expenses to NSF awards. Updated procedures could include implementing internal controls to ensure that UCM does not charge any direct and indirect expenses to NSF more than once.
- 1.6 Direct UCM to establish clear guidance regarding the allowability of publication expenses on sponsored projects, including the requirement to acknowledge NSF funding sources.
- 1.7 Direct UCM to strengthen its administrative and management processes and procedures surrounding the charging of travel expenses. Updated procedures could include:
  - Conducting annual training(s) that address how to ensure UCM appropriately reimburses expenses based on the per diem or actual expense methods, including which method travelers must use for each trip.
  - Establishing clear guidance regarding the allowability of unused lodging that does not benefit the project(s) charged.
  - Implementing additional reviews for all airfare purchases, including requiring the reviewer to verify airfare is for an economy-class ticket and complies with federal regulations before charging the expense to federal project(s).

- Requiring periodic training for individuals who travel for federal projects that addresses the allowability of travel expenses on federal awards.
- 1.8 Direct UCM to establish clear guidance regarding allowable uses of participant support cost funding. This guidance should address how to segregate and account for costs that UCM cannot cover using participant support cost funding, such as costs incurred for UCM employees and expenses associated with other direct costs that UCM did not specifically identify in the award budget.
  - 1.9 Direct UCM to strengthen its policies and procedures related to charging federal grants for student stipends that already have other funding sources. Updated procedures could include establishing clear guidance regarding funding sources to ensure that UCM does not unreasonably charge participants to federal grants.
  - 1.10 Direct UCM to require Principal Investigators or other designated staff to verify that expenses billed by consultants are consistent with the appropriate payment terms and conditions prior to charging expenses to NSF.
  - 2.1 Resolve the \$55,221 in questioned equipment, materials and supplies, and publication expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
  - 2.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$16,242 in questioned materials and supplies, maintenance, and publication expenses for which it has agreed to reimburse NSF.
  - 2.3 Direct UCM to strengthen its administrative and management controls and processes for supporting the allocation of expenses to sponsored projects. Updated processes could include:
    - Requiring Principal Investigators or other designated staff to both document and justify the allocation methodologies used when charging expenses to sponsored projects near the grant expiration date.
    - Implementing a standard documentation and retention process to support the allocation of costs that benefit multiple awards.
  - 2.4 Direct UCM to strengthen its administrative and management processes and procedures surrounding the approval of equipment expenses near the end of a grant's period of performance to ensure that UCM will receive the equipment before the grant expires. Updated procedures could include performing an additional review of equipment purchases made within 180 days of the grant's expiration date.

- 2.5 Direct UCM to provide training on how to assess and document the methodology used to allocate publication costs across each sponsored award acknowledged in the publication.
- 3.1 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$21,064 in questioned Award Cash Management Service drawdowns for which it has agreed to reimburse NSF.
- 3.2 Direct UCM to strengthen its award close-out procedures. Updated procedures should ensure that UCM appropriately performs final award reconciliations and appropriately reimburses NSF for credits posted during the award close-out process.
- 3.3 Direct UCM to implement additional accounting controls over the writing off of expenses in its accounts payable subledger. Updated controls should ensure that UCM posts credits to its general ledger for all expenses it writes off in its accounts payable subledger.
- 3.4 Direct UCM to strengthen the administrative and management internal controls and processes over its Award Cash Management Service reconciliation process. Updated processes could include requiring that an individual who is independent from the standard Award Cash Management Service drawdown process perform periodic reconciliations of Award Cash Management Service cash drawdowns to UCM general ledger expenses for each active NSF award.
- 4.1 Resolve the \$10,364 in questioned inadequately supported salary expenses for which UCM has not agreed to reimburse NSF and direct UCM to repay or otherwise remove the sustained questioned costs from its NSF awards.
- 4.2 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$7,128 in questioned consultant, travel, and publication expenses for which it has agreed to reimburse NSF.
- 4.3 Direct UCM to strengthen its policies and procedures related to creating and retaining documentation, including introducing additional internal controls to help ensure that it appropriately creates and maintains all documentation necessary to support the allowability of expenses charged to sponsored programs. These additional internal controls could include:
- Updating its policies for performing an annual review of UCM employees, both staff and students, to ensure it has documented an established rate of pay for each employee who charges salary expenses to sponsored projects.
  - Updating its policies to establish clear guidance regarding which hourly rate employees are required to complete a timesheet certifying their hours

worked. The guidance could further indicate that timesheets must be reviewed and approved by an individual who is knowledgeable regarding the sponsored award.

- Updating its current consultant policies and procedures to ensure it reviews consultant invoices and only charges approved and assessed rates to federally sponsored awards.
- Providing additional training regarding requirements for travel documentation, including the documentation required when combining personal and business travel, to ensure it only reimburses travelers for allowable, supported lodging and airfare.
- Providing additional training to ensure it only charges federally sponsored awards for publication expenses that are supported and relate specifically to the sponsored award.

- 5.1 Direct UCM to provide documentation supporting that it has repaid or otherwise credited the \$482 in questioned indirect costs for which it has agreed to reimburse NSF.
- 5.2 Direct UCM to strengthen its monitoring procedures and internal control processes for applying indirect costs to federal awards. Updated procedures could include implementing an annual review process for costs charged to awards that include funding for participant support costs to ensure UCM is appropriately segregating these expenses in accounts that it has excluded from its Modified Total Direct Cost base.
- 6.1 Direct UCM to strengthen the administrative and management internal controls and processes over its financial systems. Updated processes could include requiring its departments to perform more frequent periodic reconciliations between the UCM general ledger and any applicable subledgers/subsystems on a cost-claimed basis and document justifications for any discrepancies identified.
- 7.1 Direct UCM to update its current pre-award procedures and internal controls for reviewing NSF proposal budgets to ensure that all costs included in the participant support cost budget comply with NSF terms and conditions.
- 7.2 Direct UCM to establish clear guidance regarding the allowable uses of participant support cost funding. This guidance should address how to segregate and account for costs that cannot be covered with participant support cost funding, such as costs incurred for employee salaries, non-participant expenses, and workshops.
- 8.1 Direct UCM to strengthen its administrative and management procedures to ensure employees certify effort within 120 days of the end of the reporting period.

- 8.2 Direct UCM to strengthen its administrative and management procedures for travel expenses to ensure travelers submit expense reports within 45 days of completing the trip, obtain appropriate approval for exceptions and reimbursements, and complete documentation required to support travel expenses in accordance with UCM policy.
- 8.3 Direct UCM to strengthen its administrative and management procedures for cost transfers to ensure it does not transfer costs to an award without first obtaining the appropriate documentation and approval.
- 8.4 Direct UCM to strengthen its administrative and management procedures and internal controls for using procurement cards on sponsored funding purchases. Updated processes could include the following:
- Conducting annual training for individuals who have procurement cards to ensure they are aware of the maximum dollar thresholds allowable for procurement card transactions, as well as the documentation they must complete before initiating a purchase.
  - Implementing an additional level of review to ensure that all purchases made with a procurement card are compliant with UCM policies prior to charging expenses to sponsored awards.
- 8.5 Direct UCM to strengthen its administrative and management procedures for subawards to ensure that it appropriately completes the Subaward Request Form prior to charging subawardee costs to NSF awards.
- 8.6 Direct UCM to strengthen its administrative and management procedures and internal controls for reviewing whether expenses are eligible for inclusion in the Modified Total Direct Cost base. Updated processes could include the following:
- Requiring that personnel manually review purchases below UCM's capitalization threshold to ensure UCM has appropriately expensed the purchases and included them in the Modified Total Direct Cost base.
  - Conducting annual training regarding the treatment of licenses under the equipment threshold, including how to determine when to treat costs as equipment.

## **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) and (2 CFR Revision § 200.1).

**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.).

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

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

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

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

**Capital expenditures** means expenditures to acquire capital assets or expenditures to make additions, improvements, modifications, replacements, rearrangements,

reinstallations, renovations, or alterations to capital assets that materially increase their value or useful life (2 CFR § 200.13).

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

**Consultant Services (Professional Service costs).** This refers to costs of professional and consultant services rendered by persons who are members of a particular profession or possess a special skill, and who are not officers or employees of the non-federal entity, are allowable, subject to paragraphs (b) and (c) when reasonable in relation to the services rendered and when no contingent upon recovery of the costs from the federal government.

In determining the allowability of costs in a particular case, no single factor or any special combination of factors is necessarily determinative; however, the following factors are relevant:

- 1) The nature and scope of the service rendered in relation to the service required.
- 2) The necessity of contracting for the service, considering the non-federal entity's capability in the particular area.
- 3) The past pattern of such costs, particularly in the years prior to federal awards.
- 4) The impact of federal awards on the non-federal entity's business.
- 5) Whether the proportion of federal work to the non-federal entity's total business is such as to influence the non-federal entity in favor of incurring the cost, particularly where the services rendered are not of a continuing nature and have little relationship to work under federal awards.
- 6) Whether the service can be performed more economically by direct employment rather than contracting.
- 7) The qualifications of the individual or concern rendering the service and the customary fees charged, especially on non-federally funded activities.
- 8) Adequacy of the contractual agreement for the service (e.g., description of the service, estimate of time required, rate of compensation, and termination provisions) (2 CFR § 200.459) and (2 CFR Revision § 200.459).

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

**Direct Costs.** Costs that can be identified specifically with a particular final cost objective—such as a federal award—or other internally- or externally-funded activity, or that can be directly assigned to such activities relatively easily with a high degree of accuracy. Costs incurred for the same purpose in like circumstances must be treated consistently as either direct or indirect (F&A) costs (2 CFR § 200.413).

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

**Entertainment.** Costs of entertainment, including amusement, diversion, and social activities and any associated costs are unallowable, except where specific costs that might otherwise be considered entertainment have a programmatic purpose and are authorized either in the approved budget for the federal award or with prior written approval of the federal awarding agency. (2 CFR § 200.438) and (2 CFR Revision § 200.438).

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

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

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

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

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

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

**MTDC.** This refers to all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward (regardless of the period of performance (POP) of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs (2 CFR § 200.68) and (2 CFR Revision § 200.1).

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

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

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

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

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

**Period of Performance (POP).** The time during which the non-federal entity may incur new obligations to carry out the work authorized under the federal award. The federal awarding agency or pass-through entity must include start and end dates of the POP in the federal award (2 CFR § 200.77).

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

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

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

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

Page charges for professional journal publications are allowable where:

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

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

**Reasonable Cost.** A reasonable cost is a cost that, in its nature and amount, does not exceed that which would have been incurred by a prudent person under the circumstances prevailing at the time the decision to incur the cost was made (2 CFR § 200.404, 2 CFR § 220 Appendix A, C.3.).

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

**Salaries and Wages.** Compensation for personal services includes all remuneration, paid currently or accrued, for services of employees rendered during the POP under the federal award, including but not necessarily limited to wages and salaries. Costs of compensation are allowable to the extent that they satisfy the specific requirements of this Part, and that the total compensation for individual employees:

- (1) Is reasonable for the services rendered and conforms to the established written policy of the non-federal entity consistently applied to both federal and non-federal activities.
- (2) Follows an appointment made in accordance with a non-federal entity's laws or rules or written policies and meets the requirements of federal statute, where applicable.
- (3) Is determined and supported as provided in Standards for Documentation of Personnel Expenses, when applicable (2 CFR § 200.430).

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

**Subawards.** An award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a federal program. A subaward may be provided through any form of legal agreement, including an agreement that the pass-through entity considers a contract (2 CFR § 200.92) and (2 CFR Revision § 200.1).

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

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

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

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

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



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