

Performance Audit of Incurred Costs – University of Colorado Boulder

REPORT PREPARED BY WITHUMSMITH+BROWN, PC

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

January 10, 2020
Report No. OIG 20-1-001





AT A GLANCE

Performance Audit of Incurred Costs – University of Colorado Boulder
Report No. OIG 20-1-001
January 10, 2020

AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged WithumSmith+Brown, PC (WSB) to conduct a performance audit of incurred costs at the University of Colorado Boulder (CU Boulder) for the period October 1, 2014, to September 30, 2017. The auditors tested more than \$1.6 million of the \$216.5 million of costs claimed to NSF. The objective of the audit was to determine if costs claimed by CU Boulder on NSF awards were allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and Federal financial assistance requirements.

AUDIT RESULTS

The report highlights concerns about CU Boulder's compliance with certain Federal, NSF, and/or CU Boulder regulations and policies when allocating expenses to NSF awards. The auditors questioned \$79,831 of costs claimed by CU Boulder during the audit period. Specifically, the auditors found \$33,523 in questionable purchases near award expiration, \$20,653 in purchases after award expiration, \$15,785 in unallocable or unreasonable travel, \$4,597 in employee expenditures charged as participant support, \$2,728 in unallocable transactions, and \$2,545 in unsupported transactions. WSB 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 WSB's audit report.

RECOMMENDATIONS

The auditors included 6 findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure CU Boulder strengthens administrative and management controls.

AUDITEE RESPONSE

CU Boulder expressed varying levels of agreement and disagreement with the findings throughout the report. CU Boulder's response is attached in its entirety to the report as Appendix A.

FOR FURTHER INFORMATION, CONTACT US AT OIGPUBLICAFFAIRS@NSF.GOV



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

MEMORANDUM

DATE: January 10, 2020

TO: Dale Bell
Director
Division of Institution and Award Support

Jamie French
Director
Division of Grants and Agreements

[Handwritten signature]

FROM: for Mark Bell
Assistant Inspector General
Office of Audits

SUBJECT: Audit Report No. 20-1-001, University of Colorado Boulder

This memo transmits the WithumSmith+Brown, PC (WSB) report for the audit of costs charged by the University of Colorado Boulder (CU Boulder) to its sponsored agreements with the National Science Foundation (NSF) during the period October 1, 2014, to September 30, 2017. The audit encompassed more than \$1.6 million of the \$216.5 million claimed to NSF during the period. The objective of the audit was to determine if costs claimed by CU Boulder on NSF awards were allowable, allocable, reasonable, and in compliance with NSF award terms and conditions and Federal financial assistance requirements.

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

WSB 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 WSB's audit report. To fulfill our responsibilities, we:

- reviewed WSB'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 WSB, as necessary, to discuss audit progress, findings, and recommendations;
- reviewed the audit report prepared by WSB; and
- coordinated issuance of the audit report.

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Keith Nackerud at 703.292.7100 or OIGpublicaffairs@nsf.gov.

Attachment

cc:

Anneila Sargent
John Veysey
Ann Bushmiller
Christina Sarris
Fleming Crim

Fae Korsmo
Teresa Grancorvitz
Pamela Hawkins
Alex Wynnyk
Rochelle Ray

Carrie Davison
Allison Lerner
Lisa Vonder Haar
Ken Chason
Dan Buchtel

Ken Lish
Keith Nackerud
Jennifer Kendrick
Louise Nelson
Karen Scott
Billy McCain

University of Colorado Boulder

Audit of Incurred Costs

National Science Foundation Office of Inspector General

January 10, 2020

OIG 20-1-001

Table of Contents

Background	1
Results of Audit	2
Finding 1: Purchases Near Award Expiration	2
Recommendations	4
Awardee Response	4
Auditor’s Additional Comments	5
Finding 2: Expenditures After Award Expiration.....	5
Recommendations	6
Awardee Response	7
Auditor’s Additional Comments	7
Finding 3: Unallocable or Unreasonable Travel.....	7
Recommendations	10
Awardee Response	10
Auditor’s Additional Comments	10
Finding 4: Employee Expenditures Charged as Participant Support.....	10
Recommendations	11
Awardee Response	12
Auditor’s Additional Comments	12
Finding 5: Unallocable Transactions	12
Recommendations	13
Awardee Response	13
Auditor’s Additional Comments	13
Finding 6: Unsupported Transactions.....	13
Recommendations	14
Awardee Response	14
Auditor’s Additional Comments	14
Appendix A: Awardee Response.....	15
Appendix B: Objective, Scope, Methodology, and Criteria	20
Objective	20
Scope	20
Methodology	20
Criteria.....	21
Appendix C: Questioned Costs Summary by Award	22

Abbreviations

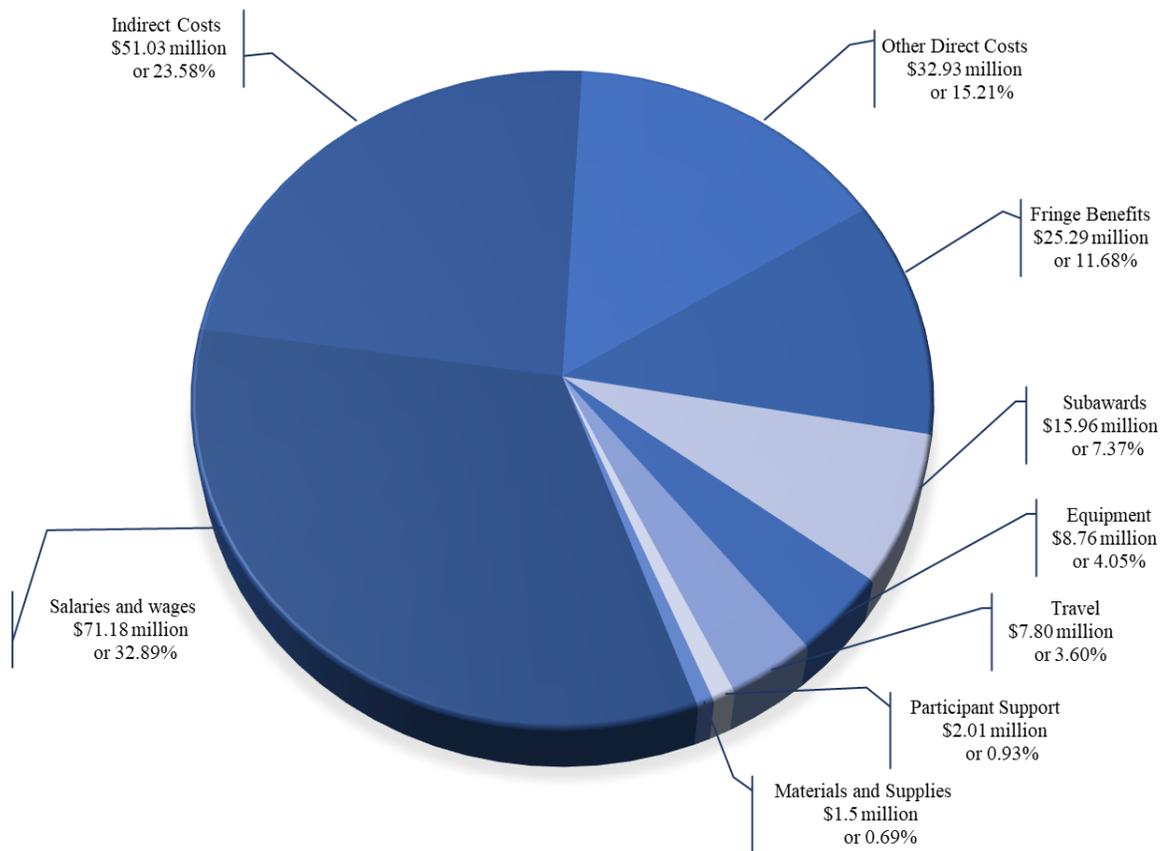
AAG	Award and Administration Guide
F&A	Facilities and Administrative (costs)
PI	Principal Investigator
CU Boulder	University of Colorado Boulder

Background

The National Science Foundation (NSF) is an independent Federal agency created “to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.”¹ NSF is also committed to ensuring an adequate supply of the Nation’s scientists, engineers, and science educators. NSF funds research and education in science and engineering by awarding grants and contracts to educational and research institutions in all parts of the United States.

NSF awardees must follow Federal and NSF award regulations and guidance in administering NSF awards. The University of Colorado Boulder (CU Boulder), a public institution, received Federal funding of \$354 million for Fiscal Year 2017. NSF funding represented approximately \$78 million of the total Federal funding. Between October 1, 2014, and September 30, 2017, CU Boulder claimed approximately \$216 million of costs on 952 NSF awards. See Figure 1 for an analysis of these costs by budget category.

Figure 1. Costs Claimed by NSF Budget Category, October 1, 2014, to September 30, 2017



Source: Auditor summary of accounting data provided by CU Boulder

¹ National Science Foundation Act of 1950, Pub. L. No. 81-507

Results of Audit

WithumSmith+Brown, under contract with NSF OIG, audited the costs claimed by CU Boulder on NSF awards for the period beginning October 1, 2014, and ending September 30, 2017. In our testing of 250 judgmentally selected transactions, we identified 31 transactions totaling \$79,831 of questioned costs charged to 21 NSF awards. Improved oversight is needed in six areas to ensure costs claimed are reasonable, necessary, and in accordance with Federal and NSF award requirements. The six areas are: 1) \$33,523 in purchases near award expiration; 2) \$20,653 in purchases after award expiration; 3) \$15,785 in unallocable or unreasonable travel; 4) \$4,597 in employee expenditures charged as participant support; 5) \$2,728 in unallocable transactions; and 6) \$2,545 in unsupported transactions. See Appendix C for a schedule of questioned costs by award.

Finding 1: Purchases Near Award Expiration

We question \$33,523 in equipment, materials, and supplies purchases made near the awards' expiration dates for items that did not appear reasonable or necessary.

Materials and Supplies Purchased and Received at the End of the Award

We identified one transaction, charged to one award, totaling \$6,281, for materials and supplies purchased near the award expiration date. This purchase did not appear reasonable, necessary, or to provide benefit to the award charged.

The purchase was for [REDACTED] totaling \$6,281 that were received on January 28, 2016, on an award that expired on January 31, 2016. The [REDACTED] were available for less than 1 percent of the award period (3 out of 1,460 days). The [REDACTED] were charged 100 percent to the NSF award, but the award received little, if any, benefit. The timing of this purchase, and subsequent receipt of the [REDACTED], leads us to conclude that the purchase was not necessary, reasonable, or prudent for the administration of the award.²

Equipment Purchased and Received at the End of the Award

We identified the purchase of equipment, allocated to two NSF awards, totaling \$27,242, near the end of the awards. The purchase does not appear reasonable, necessary, or to provide benefit to the NSF awards charged, as shown in Table 1.

² According to 2 CFR Part 220, Appendix A, C.2 and C.3, costs "must be reasonable; they must be allocable to sponsored agreements A cost may be considered reasonable if the nature of the goods or services acquired or applied, and the amount involved therefore, reflect the action that a prudent person would have taken under the circumstances prevailing at the time the decision to incur the cost was made. Major considerations involved in the determination of the reasonableness of a cost are: whether or not the cost is of a type generally recognized as necessary for the operation of the institution or the performance of the sponsored agreement."

Table 1. Transactions Near the Award Expiration

	Description	Invoice	Invoice Total	Questioned F&A	Questioned Total	Days Remaining
1		(1)	\$ 2,500	\$ 1,312	\$ 3,812	79
2		(2)	2,498	1,311	3,809	79
3	System		12,000	--	12,000	30
4		(1)	2,500	1,312	3,812	(12)
5		(2)	2,498	1,311	3,809	(12)
Total			\$ 21,996	\$ 5,246	\$ 27,242	

Source: Auditor analysis of questioned transactions

The following equipment was charged to NSF award [REDACTED]:

- [REDACTED] – \$3,812 for 50 percent of the cost of a [REDACTED], purchased on September 12, 2016, on an award that expired on November 30, 2016. The equipment was available for 5 percent of the award period (79 out of 1,551 days).
- [REDACTED] – \$3,809 for 50 percent of the cost of a [REDACTED], purchased on September 12, 2016, on an award that expired on November 30, 2016. The equipment was available for 5 percent of the award period (79 out of 1,551 days).
- [REDACTED] – \$12,000 for 35 percent of the costs of an [REDACTED] system that was delivered on October 31, 2016, on an award that expired on November 30, 2016. The equipment was available for less than 2 percent of the award period (30 out of 1,551 days). Additionally, the equipment was not posted to the NSF award until March 1, 2017, 3 months after the NSF award expiration.

The revised budget for NSF award [REDACTED] did not include equipment. The equipment described above was purchased in September and October 2016, after a second no-cost extension was submitted on August 5, 2016, revising the expiration date to November 30, 2016. According to the justification for the 3-month extension, “there is still some data collection and analysis to be completed and a paper to submit.” The extension justification made no mention of the need or plan to purchase the equipment.

The following equipment was charged to NSF award [REDACTED]:

- [REDACTED] – \$3,812 for 50 percent of the cost of a [REDACTED] purchased on September 12, 2016, on an award that expired on August 31, 2016. The equipment was purchased 12 days after the award expired.
- [REDACTED] – \$3,809 for the purchase of a [REDACTED] purchased on September 12, 2016, on an award that expired on August 31, 2016. The equipment was purchased 12 days after the award expired.

The above items were purchased after the award expired and, therefore, could not provide benefit to the award. The timing of these purchases leads us to conclude that the purchases were not necessary, reasonable, or prudent for the administration of the awards. CU Boulder has corrected

the error by removing the \$7,621 from the award in question. NSF should ensure that the award has been credited as appropriate during the audit resolution process.

CU Boulder personnel did not adequately review these questioned expenditures, which resulted in unreasonable costs. Enhanced oversight procedures and controls should be adopted to review expenditures charged near the end of the award period. Having improved oversight processes ensures costs are reasonable and allowable, thus reducing the risk that funds may not be used as required to accomplish the necessary project objectives in accordance with Federal and NSF requirements.

Recommendations

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

1. Resolve the \$25,902 of questioned material and supply (\$6,281) and equipment expenditures (\$19,621) and direct CU Boulder to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct CU Boulder to provide support that it has repaid the \$7,621 of questioned equipment costs.
3. Direct CU Boulder to strengthen the administrative and management procedures over expenditures near the end of an award. Processes could include requiring CU Boulder to review all equipment and materials/supplies purchased during the final 90 days of an award's period of performance to evaluate whether the costs are allocable in accordance with all relevant Federal and sponsor-specific regulations before charging the expenses to a sponsored project.

Awardee Response

CU Boulder disagrees with \$6,281 of the finding's questioned costs. Per CU Boulder, in October 2015, prior to the award's January 31, 2016 end date, the University learned additional experiments were required in order for the research to be published. The additional experiments began prior to the award's end date. The [REDACTED] units in question, which were critical components used during the additional experiments, were purchased to replace units that had failed in December 2015 and January 2016, prior to the award's January 31, 2016 end date.

CU Boulder disagrees with \$19,621 of the finding's questioned costs. Per CU Boulder, the expenses were reasonable, necessary and provided a direct benefit to the award.

CU Boulder agrees with \$7,621 of this audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor's Additional Comments

Our position remains unchanged concerning the \$6,281 of materials and supplies expenses. The [REDACTED] were charged 100 percent to the NSF award when they were purchased on January 28, 2016, 3 days prior to the award expiration on January 31, 2016. As the [REDACTED] provided considerable benefit beyond 3 days remaining on the award, the award should have been charged an amount commensurate with the relative benefits received. Charging the full cost of the [REDACTED] does not appear reasonable.

Our position remains unchanged concerning the \$19,621 of materials and equipment expenses. The materials and equipment were purchased at the end of the award life. There was no equipment in the NSF award budget. The equipment was purchased in September and October 2016, after a second no-cost extension was submitted on August 5, 2016, revising the expiration date to November 30, 2016. The justification for the 3-month extension made no mention of the need or plan to purchase the equipment. Therefore, the equipment does not appear reasonable or necessary for the NSF award.

For the remaining \$7,621, CU Boulder's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$33,523 in questioned costs have been resolved, this finding should be closed.

Finding 2: Expenditures After Award Expiration

We question \$20,653 for CU Boulder expenditures after the award expiration date without a valid commitment that existed prior to the expiration.

Publication Charges

Specifically, we identified three transactions, charged to three awards, totaling \$20,575, for publication expenditures charged after the award expiration. The expenditures are unallowable³ on the NSF awards as identified in Table 2.

³ According to *NSF Award & Administration Guides* (AAG), 10-1, Chapter V, A.2.c and B.7.c, a valid commitment must exist prior to the award expiration date: "NSF funds may not be expended subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date." Additionally, AAG, 10-1, Chapter V, B.7.c states, "Chapter III.E.2, permits a grantee to transfer from the grant account to an institutional account an amount equal to valid unpaid obligations outstanding at the time a grant expires. A grantee should refer to this section if they have incurred valid commitments for the costs of publication or sharing of research results and it is not possible to effect an actual payment for such charges by the time the final disbursements are due."

Table 2. Summary of Unallowable Transactions

Award ID	Expiration Date	Purchase Date	Days after Expiration	Invoice Total	Questioned F&A	Questioned Total
██████	05/31/2014	04/21/2015 08/06/2016	327 days 798 days	\$ 7,631	\$ 1,984	\$ 9,615
██████	08/31/2015	01/18/2017 02/15/2017	506 days 534 days	5,930	1,542	7,472
██████	08/31/2014	05/05/2015 04/28/2016	257 days 606 days	2,768	720	3,488
Total				\$ 16,329	\$ 4,246	\$ 20,575

Source: Auditor analysis of questioned transactions

Per CU Boulder, these publication expenditures were directly related to the research conducted on the awards. Therefore, the expenditures were necessary to publish and disseminate the research related to these awards. However, the criteria in effect at the time these awards were funded states that a valid commitment must exist prior to the award expiration date.⁴ CU Boulder did not provide evidence that such a commitment existed. Therefore, we question \$20,575 for expenditures made after the award expiration date without a valid commitment before the expiration date.

Other Charges

We noted \$78 that was unallowable⁵ on an NSF award as it was charged after the award expiration. The \$78 was for a breathing apparatus purchased on October 14, 2015, on an award that expired May 31, 2015. This charge occurred 131 days after the award expired. CU Boulder has removed this cost from the award in question. NSF should ensure that the award has been credited as appropriate during the audit resolution process.

CU Boulder did not use the correct criteria when reviewing the transactions, which resulted in unallowable costs. Enhanced oversight procedures should be adopted to strengthen existing processes and controls to ensure expenditures are charged using the appropriate criteria to minimize unallowable costs. Having improved oversight helps ensure expenses are allocated in accordance with Federal and NSF requirements.

Recommendations

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

1. Resolve the \$20,575 of questioned publication costs and direct CU Boulder to repay or otherwise remove the sustained questioned costs from its NSF awards.

⁴ AAG, 10-1, Chapter V, B.7.c

⁵ According to AAG, 10-1, Chapter V, A.2.c, a valid commitment must exist prior to the award expiration date: “NSF funds may not be expended subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date.”

2. Direct CU Boulder to provide support that it has repaid the \$78 of questioned material and supplies costs.
3. Direct CU Boulder to strengthen the administrative and management controls and processes over applying the appropriate criteria to Federal and NSF award expenditures. Processes could include documenting the applicable criteria attached to each award.
4. Direct CU Boulder to strengthen the administrative and management controls and processes over expenditures charged to awards after the award expiration. Processes could include eliminating general access to the award program codes once the award has expired.

Awardee Response

CU Boulder disagrees with \$20,575 of the finding's questioned costs. Per CU Boulder, when the Uniform Guidance became effective, the Federal Government issued guidance that stated 2 CFR 200.461, *Publication and Printing Costs*, was a policy clarification of the guidance in OMB Circular A-121, Attachment B, Section 41, not a policy change. Given that the Uniform Guidance in this area was a clarification of the OMB circular guidance, it is the university's position that all of the actual publication costs incurred for the three awards in question are allowable, reasonable, and allocable, even if the actual publication costs were not known until after the awards' expiration dates. Per CU Boulder, the actual publication costs should remain on these awards, because these costs are supported by invoices.

CU Boulder agrees with \$78 of this audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor's Additional Comments

Our position remains unchanged concerning the \$20,575 of publication expenditures charged after the award expiration. The Uniform Guidance cited by CU Boulder was not applicable to the three NSF awards to which the publication expenditures were charged. The NSF criteria cited, in effect at the time these awards were funded, states that a valid commitment must exist prior to the award expiration date.

For the remaining \$78, CU Boulder's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$20,653 in questioned costs have been returned, this finding should be closed.

Finding 3: Unallocable or Unreasonable Travel

We questioned \$15,785 in travel costs that did not appear to be allocable, reasonable, or necessary for the awards charged or were not in compliance with NSF requirements.

We questioned five transactions, charged to one award, totaling \$2,065 for airfare, lodging, and meals expenses that were not allocable to the award. Per 2 CFR §200.405(a), a cost is allocable to a particular award in accordance with the relative benefits received.⁶

The questioned items include:

- \$643 for airfare to [REDACTED], for the Principal Investigator (PI) to attend a meeting. The PI purchased two flights for this meeting on different dates, and both were charged to the award. Per CU Boulder, upon additional review it was determined this airfare expense should not have been charged to the award. At the time the error occurred, travel authorizations were not required by CU Boulder, and, therefore, the research administrator was unaware of the duplicate flight. CU Boulder has corrected the error by removing the \$643 from the award in question.
- \$610 for airfare from [REDACTED], to [REDACTED], from [REDACTED], 2017, for the Co-PI. Per CU Boulder, upon additional review it was determined this airfare expense should not have been charged to the award. At the time the error occurred, travel authorizations, or in-depth documentation on the reasons for travel, were not required. CU Boulder has corrected the error by removing the \$610 from the award in question.
- \$519 for an Airbnb rental for 5 days in [REDACTED], for the PI to conduct customer interviews. The PI was unable to make the trip to [REDACTED]. CU Boulder has corrected the error by removing the \$519 from the award in question.
- \$163 for 2 days of meal per diem charged to the award when the PI was using personal time. The PI traveled to [REDACTED], to conduct customer interviews. The interviews were completed on a Friday, but the PI stayed in [REDACTED] through that Sunday and charged 2 additional days per diem to the award. CU Boulder has corrected the error by removing the \$163 from the award in question.
- \$130 for 2 days of meal per diem charged to the award when the PI was using personal time. The PI traveled to [REDACTED], to conduct customer interviews on [REDACTED], 2016. The PI stayed in [REDACTED] from [REDACTED], 2016, and charged 2 additional days per diem to the award. Per CU Boulder, the PI stayed 2 additional days in [REDACTED] because flights were more expensive on [REDACTED] and [REDACTED]; however, no flight comparison was provided to support this statement. CU Boulder has corrected the error by removing the \$130 from the award in question.

We questioned seven transactions, charged to seven awards, totaling \$13,720, for travel expenses that did not appear to be necessary, reasonable, or prudent for the administration of the award.⁷

⁶ According to 2 CFR §200.405(a), “[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.”

⁷ According to 2 CFR Part 220, Appendix A, §C.2 and C.3, costs “must be reasonable; they must be allocable to sponsored agreements A cost may be considered reasonable if the nature of the goods or services acquired or applied, and the amount involved therefore, reflect the action that a prudent person would have taken under the circumstances prevailing at the time the decision to incur the cost was made. Major considerations involved in the determination of the reasonableness of a cost are: whether or not the cost is of a type generally recognized as necessary for the operation of the institution or the performance of the sponsored agreement.” Additionally, according to 2 CFR §200.405(a), “[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.”

- \$7,336 in airfare for the PI to attend a conference in [REDACTED]. Per CU Boulder, this trip was originally planned to be paid out of the award; however, most of the trip was reimbursed by a third party. CU Boulder has corrected the error by removing the \$7,336 from the award in question.
- \$3,717 for airfare that was charged to the NSF award in error. Per CU Boulder, in review of this transaction, it was discovered that this travel cost for fieldwork was not properly allocated. Two students traveled to the same [REDACTED] in [REDACTED]. CU Boulder noted that this error occurred because the normal process for purchasing airfare was not followed. CU Boulder has corrected the error by removing the \$3,717 from the award in question.
- \$906 for the purchase of two first-class Euro Rail passes. The passes were used by the PI and the PI's spouse. CU Boulder stated that there was a buy one/get one deal, and that purchasing two first-class passes was cheaper than the PI buying individual passes. However, CU Boulder did not provide a price comparison from the time of purchase. Therefore, we were unable to determine whether the purchase of the first-class tickets was reasonable. A current comparison of prices of the Euro Rail passes showed first-class tickets cost \$605 and second-class tickets cost \$455. Therefore, we question the cost of the two first-class Euro Rail passes over the \$455 cost of one second-class ticket. CU Boulder has corrected the error by removing the \$906 from the award in question.
- \$749 for lodging that was deemed to be excessive. CU Boulder charged \$951 (\$317 per night) for 3 nights lodging in [REDACTED]. The GSA per diem rate for lodging in [REDACTED], in 2016 was \$155. As a result, we find a total of \$749 (\$162 for each night, plus applicable IDC) to be excessive and unreasonable. Per CU Boulder, the PI reserved a room for the wrong date, and when the PI arrived at the hotel, there was only one room available at the higher rate. CU Boulder has corrected the error by removing the \$749 from the award in question.
- \$452 of round-trip airfare for an employee's spouse that was charged to an award as part of moving and relocation expenses. Per CU Boulder, upon internal review it was determined the round-trip airline ticket should not have been charged to the award. When the cost was incurred, the individual that reviewed the airfare was not familiar with the specific regulations related to Federal awards. The department is working to implement improved processes for reviewing and approving relocation costs. CU Boulder has corrected the error by removing the \$452 from the award in question.
- \$290 for per diem in [REDACTED] that was calculated incorrectly due to the wrong city being used. CU Boulder has corrected the error by removing the \$290 from the award in question.
- \$270 charged to an award for passport fees. Charging the NSF award for obtaining a passport, which is good for 10 years, is not reasonable or allocable to the Federal award. CU Boulder has corrected the error by removing the \$270 from the award in question.

CU Boulder personnel did not adequately review the above questioned travel expenses, which resulted in unallocable and unreasonable costs. Enhanced oversight procedures and controls should be adopted to review travel expenditures. Having improved oversight processes ensures costs are reasonable and allowable, thus reducing the risk that funds may not be used in accordance with Federal and NSF requirements.

CU Boulder has corrected these errors by removing \$15,785 from the awards in question. NSF, during the audit resolution process, should ensure that the awards have been credited as appropriate.

Recommendations

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

1. Direct CU Boulder to provide support that it has repaid the \$15,785 of questioned travel costs.
2. Direct CU Boulder to strengthen the administrative and management procedures over travel expenditures charged to NSF awards. Processes could include implementing controls to ensure that CU Boulder perform thorough reviews of travel expenses charged to Federal awards.

Awardee Response

CU Boulder agrees with this \$15,785 audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor’s Additional Comments

CU Boulder’s comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$15,785 in questioned costs have been returned, this finding should be closed.

Finding 4: Employee Expenditures Charged as Participant Support

We identified five transactions, charged to four awards, totaling \$4,597, where CU Boulder charged employee expenses to participant support as described in Table 3.

Table 3. Summary of Employee Expenses Charged to Participant Support

Description	Total Questioned
Employee Meal during a [redacted] Workshop	\$ 1,883
Employee Lodging during a [redacted] Workshop	1,326
Employee Meals and Lodging during a [redacted] Conference	647
Employee Lodging during a [redacted] Workshop	533
PI Lodging during a [redacted] Workshop	208
Total	\$ 4,597

Source: Auditor analysis of questioned transactions

Per NSF regulations, costs for employees are not to be paid out of participant support funds.⁸ Per CU Boulder, the misallocation of employee expenses to participant support was an oversight. The allocation of employee expenses should have been discovered when the expense reports were processed and before the charges were posted to participant support. According to CU Boulder, the department has taken steps to train staff responsible for processing expense reports to ensure that participant support costs are appropriately itemized.

Per CU Boulder, the department informs PIs at the time of proposal and event planning that participant support costs are limited to attendees/students, not employees. However, for the above expenses, the PIs did not properly allocate the employee expenses on the travel expense reports. In most cases, detailed invoices were not provided as support for the travel expense report. Therefore, the errors of charging employee expenses to participant support were not discovered when the expenses were incurred.

CU Boulder did not adequately review the expenditures charged to participant support, which resulted in unallowable costs. Enhanced oversight procedures should be adopted to strengthen existing processes and controls to review expenditures charged to participant support to minimize unallowable costs. Having improved oversight processes in place ensures costs are allowable and reduces the risk that funds may not be used in accordance with Federal and NSF requirements.

CU Boulder has corrected these errors by removing the \$4,597 in unallowable participant support costs from the awards in question. NSF should ensure that the awards have been credited as appropriate during the audit resolution process.

Recommendations

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

1. Direct CU Boulder to provide support that it has repaid the \$4,597 of questioned participant support costs.
2. Direct CU Boulder to strengthen the administrative and management procedures over allocating participant support costs to sponsored projects. Processes could include performing monthly detailed reviews of transactions posted to awards to ensure that expenditures are appropriately classified and recorded.

⁸ AAG, 10-1 and 14-1 Chapter V, B.8.a, states, “[p]articipant support costs are 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 meetings, conferences, symposia or training projects. ... Funds provided for participant support may not be used by grantees for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer.” Additionally, AAG 15-1, Grant Proposal Guide Chapter II.C.2.g.(v), describes Participant Support as “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.”

Awardee Response

CU Boulder agrees with this \$4,597 audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor's Additional Comments

CU Boulder's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$4,597 in questioned costs have been returned, this finding should be closed.

Finding 5: Unallocable Transactions

We question \$2,728 for a payroll transaction posted to an award in error. Per CU Boulder, the journal entry that inappropriately transferred salary to the NSF Award related to salary for a graduate assistant. The employee received full monthly salary for April [REDACTED] and May [REDACTED]. It was later determined that the employee left the university on April 15, [REDACTED], and, therefore, the employee had been overpaid for the second half of April [REDACTED] and for the month of May [REDACTED]. In July [REDACTED], the employee paid back the excess salary to the university. The amount returned to the university was not posted to the correct award program code.

For a Graduate Research Assistant, a normal termination occurs at the end of a semester. In this case, the Research Assistant completed doctoral work and was offered a job in the middle of the semester. There was no specific process in place for the department to convey an early termination to the finance manager. As a result, the information was not communicated until a reconciliation meeting in late May, making it necessary to terminate the Research Assistant retroactively and collect pay for April and May (as the May payroll had already been sent in).

According to CU Boulder personnel, this error was attributable to department administration. The posting of the return payment appeared appropriate to the fiscal staff during the close-out of the award. The department administration did not sufficiently review the payroll transfers. It was only by tracking the overpayment and repayment that it was possible to determine that the transfer was not allocable to the adjusted program code. Without a direct tie to that overpayment and repayment, it was not clear in closing out the award (in [REDACTED] 2018) that this charge was not allocable or appropriate.

CU Boulder has corrected the error by removing the \$2,728 transaction from the award in question. NSF should ensure that the award has been credited as appropriate during the audit resolution process.

CU Boulder personnel did not adequately monitor employee terminations, which resulted in an unallocable payroll expenditure. CU Boulder did not have procedures in place to address the early termination of an employee. Enhanced oversight procedures and controls should be adopted to ensure employee terminations are reported timely. Having improved oversight processes ensures costs are reasonable and allowable, thus reducing the risk that funds may not be used in accordance with Federal and NSF requirements.

Recommendations

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

1. Direct CU Boulder to provide support that it has repaid the \$2,728 of questioned salary and wages costs.
2. Direct CU Boulder to strengthen the administrative and management procedures over employee terminations. Processes could include implementing procedures to ensure that employee terminations are reported timely to all key stakeholders.

Awardee Response

CU Boulder agrees with this \$2,728 audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor's Additional Comments

CU Boulder's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$2,728 in questioned costs have been returned, this finding should be closed.

Finding 6: Unsupported Transactions

CU Boulder was unable to provide adequate documentation to support the allocability, allowability, and reasonableness of \$2,545 of expenses charged to two NSF awards during the audit period, as required by Federal regulations.⁹

Specifically, we question \$2,072 for an Airbnb rental and per diem in [REDACTED], from [REDACTED] [REDACTED], 2017. CU Boulder stated that the accommodations were for the Co-PI when [REDACTED] traveled to meet with potential companies for the [REDACTED] project. However, CU Boulder could not provide details or support for the Co-PI's activities while in [REDACTED]. Documentation to support the allocability, allowability, and reasonableness of this transaction is required to be maintained and

⁹ According to 2 CFR §200.403(a), a cost must be necessary, reasonable and allocable to be allowable under a Federal award. Further, §200.403(g) describes that a cost must be adequately documented in order to be allowable on a Federal award, and according to 2 CFR §215.21(b)(7) an awardee's financial management system shall provide accounting records that are supported by source documentation.

available per Federal regulations. Therefore, we question the travel charges associated with this trip to [REDACTED]. CU Boulder has corrected the error by removing the \$2,072 from the award in question. NSF should ensure that the award has been credited as appropriate during the audit resolution process.

We also question \$473 for various supply purchases and international employee travel expenditures. No receipts were provided to determine whether these charges occurred during the award period. CU Boulder was unable to locate the receipts, or to validate the allocability of the expenditures. CU Boulder has corrected the error by removing the \$473 from the award in question. NSF should ensure that the award has been credited as appropriate during the audit resolution process.

CU Boulder did not retain or provide adequate documentation for audit, which resulted in unallowable costs. Without a process to ensure that documentation is available and accessible in accordance with Federal requirements, there is increased risk that funds may not be used as required to accomplish the necessary project objectives.

Recommendations

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

1. Direct CU Boulder to provide support that it has repaid the \$2,545 of questioned costs that did not have adequate documentation to support the expenses charged.
2. Direct CU Boulder to strengthen the administrative and management controls, training, processes, and procedures related to document retention.

Awardee Response

CU Boulder agrees with this \$2,545 audit finding, and the amount has been refunded to NSF. CU Boulder agrees to use this audit report to review and further enhance its overall systems of compliance and internal controls.

See Appendix A for the complete CU Boulder response.

Auditor's Additional Comments

CU Boulder's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$2,545 in questioned costs have been returned, this finding should be closed.



January 10, 2020

Appendix A: Awardee Response



Finance and Business Strategy
UNIVERSITY OF COLORADO BOULDER

Finance and Business Strategy
University of Colorado Boulder
90 UCB
Boulder, Colorado 80309

t 303 492 3224
f 303 492 3001
fsb@colorado.edu
www.colorado.edu/fsb

December 12, 2019

Eric Strauss
Partner
WithumSmith + Brown
506 Carnegie Center Suite 400
Princeton, New Jersey 08540

Subject: University of Colorado Boulder
Audit of Incurred Costs for National Science Foundation Awards
October 1, 2014 to September 30, 2017 Transactions

The financial support provided by the National Science Foundation (NSF) for research conducted at the University of Colorado Boulder (CU Boulder or university) continues to enable the progress of science, research, and education. The university takes very seriously its fiscal stewardship responsibilities over the funding it receives from NSF and other sponsors.

CU Boulder appreciates the opportunity to review and provide comments in response to the NSF Office of the Inspector General Audit of Incurred Costs for National Science Foundation Awards for the Period October 1, 2014 to September 30, 2017 conducted by WithumSmith+Brown (Withum).

The university views the audit process as an integral component of its internal control structure. Regular audits, both internal and external, assist CU Boulder management in validating where our internal controls are effective, and where we might implement improvements. It is within this context that we have reviewed the auditors' findings and recommendations. While we do not agree with every audit finding, we will use this audit report to review and further enhance our overall systems of compliance and internal controls.

Between October 1, 2014 and September 30, 2017, CU Boulder claimed approximately \$216.4 million of costs, with more than 529,000 transactions, across 952 individual NSF awards. The audit team tested from this audit population 250 judgmentally selected transactions, totaling more than \$1.6 million. During its testing phase, the audit team used a data analytics approach to identify potential risk areas within the audit sample and identified 32 transactions, totaling \$79,831 of questioned costs, charged to 22 NSF awards.

The Withum audit team concluded improved oversight is needed by CU Boulder in six areas to ensure costs claimed are reasonable, necessary, and in accordance with Federal and NSF award requirements. The six areas and the associated questioned costs are:

- 1) \$33,523 in purchases near award expiration;
- 2) \$20,653 in purchases after award expiration;
- 3) \$15,785 in unallocable or unreasonable travel;
- 4) \$4,597 in employee expenditures charged as participant support;
- 5) \$2,728 in unallocable transactions; and
- 6) \$2,545 in unsupported transactions.

The university agrees with Findings 3, 4, 5, and 6 (\$25,655 in total questioned costs); partially agrees with Findings 1 and 2 (\$7,700 in total questioned costs); and partially disagrees with Findings 1 and 2 (\$46,476 in total questioned costs). Prior to the conclusion of the audit, CU

Boulder refunded to NSF \$33,355 and provided documentation of the refunds to the Withum audit team.

CU Boulder's responses to the audit findings are presented below, organized by each individual finding.

We appreciate the Withum audit team's professionalism and diligence during this audit. CU Boulder is committed to continue working with the Withum audit team and NSF on the final resolution of the audit team's findings.

Should you have any questions or need any additional documentation, please feel free to contact me.

Sincerely,

A large black rectangular redaction box covering the signature of the Chief Financial Officer.


University of Colorado Boulder
Chief Financial Officer

Finding 1: Purchases Near Award Expiration

CU Boulder disagrees with this \$6,281 audit finding.

In October 2015, prior to the award's January 31, 2016 end date, the university learned additional experiments were required in order for the research to be published in [REDACTED]. The additional experiments began prior to the award's end date. The [REDACTED] units in question, which were critical components used during the additional experiments, were purchased to replace units which had failed in December 2015 and January 2016, prior to the award's January 31, 2016 end date. On [REDACTED], the award's research results, including the results from the additional experiments, were published in a [REDACTED] article. Therefore, the purchase of the two [REDACTED] units was necessary, reasonable, and prudent for the administration of the award, and the purchase of these [REDACTED] units provided a direct benefit to the award. Thus, these expenses should remain on the award.

Finding 1: Purchases Near Award Expiration

Award [REDACTED]: *CU Boulder agrees with the Award [REDACTED] \$7,621 audit finding.*

Because the expenses charged to Award [REDACTED] were made after the award's end date, the university agrees these expenses are not allowable. Therefore, these expenses and the associated indirect expenses will be removed from Award [REDACTED] and refunded to NSF.

Award [REDACTED]: *CU Boulder disagrees with the Award [REDACTED] \$19,621 audit finding.*

The special purpose equipment purchased on this award was used to perform research during the award's period of performance. The fact that the award's no-cost extension request did not mention the need to purchase the equipment does not impact the analysis of whether these expenses are allowable, allocable, and reasonable expenses. Unless there is a change in the award's scope of work or procedures, which there was not, the purchase of special purpose equipment over \$5,000 does not require prior approval by NSF after an award is made; Research Terms and Conditions Appendix A Prior Approval Matrix (see Appendix 1). Therefore, the university's position is that the expenses in question are reasonable and necessary expenses that provided a direct benefit to this award, because the research team used the equipment to perform research during the award's period of performance. Thus, these expenses should remain on Award [REDACTED].

Finding 2: Purchases After Award Expiration -- Publication Costs

CU Boulder disagrees with this \$20,575 audit finding.

When the Uniform Guidance became effective, the Federal government created and distributed a table titled, "Uniform Guidance Crosswalk from Existing Guidance to Final Guidance." As stated in this table, 2 CFR 200.461, Publication and Printing Costs, was a policy clarification of the guidance in OMB Circular A-121, Attachment B, Section 41, not a policy change. Given that the Uniform Guidance in this area was simply a clarification of the OMB circular guidance, it is the university's position that all of the actual publication costs incurred for the three awards in question are allowable, reasonable, and allocable, even if the actual publication costs were not known until after the awards' expiration dates.

CU Boulder's publication cost process was designed to meet the spirit of the rules stated in the NSF Proposal & Award Policies & Procedures Guide, which referenced OMB Circular A-121, and this process clearly meets the Uniform Guidance rules. Therefore, the actual publication costs should remain on these awards, because these costs are supported by invoices, which were provided to the Withum audit team.

Finding 2: Purchases After Award Expiration – Other Charges

CU Boulder agrees with this \$78 audit finding, and this amount has been refunded to NSF.

Finding 3: Unallocable or Unreasonable Travel

CU Boulder agrees with this \$15,785 audit finding, and this amount has been refunded to NSF.

Finding 4: Employee Expenditures Charged as Participant Support

CU Boulder agrees with this \$4,597 audit finding, and this amount has been refunded to NSF.

Finding 5: Unallocable Transactions

CU Boulder agrees with this \$2,728 audit finding, and this amount has been refunded to NSF.

Finding 6: Unsupported Transactions

CU Boulder agrees with this \$2,545 audit finding, and this amount has been refunded to NSF.

Appendix 1 -- Research Terms and Conditions, Appendix A, Prior Approval Matrix [Emphasis Added]

**Research Terms and Conditions Appendix A
Prior Approval Matrix
December 10, 2018**

	Reference	RTC Overlay	NSF	DOE	NIH	USDA NIFA	DOC	NASA
Direct Costs	200.407(h)							
Direct charge the salaries of administrative and clerical staff if all conditions in 200.413 are met, excluding 200.413(c)(3).	200.413(c)	Waived	Required	Waived	Waived	Waived	Waived	Waived
Compensation -- personal services, paragraph (h)	200.407(i)							
Directly charge payments of incidental activities for which supplemental compensation is allowable under written institutional policy (at a rate not to exceed institutional base salary).	200.430(h)(1)(i)	Waived	Waived	Waived	Waived	Waived	Waived	Waived
Faculty salary in excess of Institutional Base Salary (IBS).	200.430(h)(2)	Required	Required	Required	Required	Required	Required	Required
Intra-institutional faculty consulting on a Federal award that exceeds a faculty member's base salary.	200.430(h)(3)	Waived	Waived	Waived	Waived	Waived	Waived	Waived
Compensation -- fringe benefits	200.407(j)							
Severance payments to foreign nationals employed by the non-Federal entity outside the US that exceed the amounts customary in the US.	200.431(i)(4)	Required	Required	Required	Required	Required	Required	Required
Severance payments to foreign nationals employed by the non-Federal entity outside the US due to termination of the foreign national as a result of the closing of, or curtailment of activities by, the non-Federal entity in that country.	200.431(i)(5)	Required	Required	Required	Required	Required	Required	Required
Entertainment costs	200.407(k)							
Inclusion of costs of entertainment, including amusement, diversion, and social activities and any associated costs that have a programmatic purpose.	200.438	Required	Required	Required	Required	Required	Required	Required
Equipment and other capital expenditures	200.407(l)							
Direct charge capital expenditures for general purpose equipment.	200.439(b)(1)	Waived	Waived	Waived	Waived ¹¹	Waived ¹⁶	Waived	Waived ^{22, 24}
Direct charge capital expenditures for buildings and land use.	200.439(b)(1)	Required	Required	Required	Required	Required	Required	Required
Direct charge capital expenditures for special purpose equipment over \$5,000.	200.439(b)(2)	Waived	Waived	Waived	Waived ¹¹	Waived	Waived	Waived ^{22, 24}
Capital expenditures for improvements to land or buildings which materially increase their value or useful life.	200.439(b)(3)	Required	Required	Required	Required	Required	Required	Required

Appendix B: Objective, Scope, Methodology, and Criteria

Objective

To determine if costs claimed by CU Boulder on NSF awards are allowable, allocable, reasonable, and in compliance with NSF and Federal financial assistance requirements.

Scope

Our audit included assessing the allowability, allocability, and reasonableness of costs claimed by CU Boulder through the Award Cash Management Service for the 3-year period beginning October 1, 2014, through September 30, 2017. NSF OIG obtained from CU Boulder all award transactions comprising all costs claimed to NSF during this period. This provided an audit universe of approximately \$216,456,560, with more than 529,000 transactions, across 952 individual NSF awards. For transaction testing, we judgmentally selected 250 transactions, totaling more than \$1.6 million, and used a data analytics approach to identify potential risk areas.

The audit work was conducted at the auditors' offices and onsite at CU Boulder in Boulder, Colorado. Onsite fieldwork was conducted in May 2019 and June 2019. At the conclusion of our fieldwork, we provided a summary of our results to NSF OIG personnel for review. We also provided the summary of results to CU Boulder personnel to ensure that they were aware of each of our findings and did not have any additional documentation to support the questioned costs.

CU Boulder management is responsible for establishing and maintaining effective internal control to help ensure that Federal award funds are used in compliance with laws, regulations, and award terms. In planning and performing our audit, we considered CU Boulder's internal control solely to understand the policies and procedures relevant to the financial reporting and administration of NSF awards. We also evaluated CU Boulder's compliance with laws, regulations, and award terms applicable to the items selected for testing, but not to express an opinion on the effectiveness of CU Boulder's internal control over award financial reporting and administration. Accordingly, we do not express an opinion on the effectiveness of CU Boulder's internal control over its award financial reporting and administration.

This performance audit was conducted in accordance with *Generally Accepted Government Auditing Standards*. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the conclusions based on the audit objective. The auditors believe that the evidence obtained provides a reasonable basis for the conclusions based on the audit objective.

Methodology

At our request, CU Boulder provided detailed transaction data for all costs charged to NSF awards for the period October 1, 2014, through September 30, 2017. We reviewed available accounting and administration policies and procedures, relevant documented management initiatives,

previously issued external audit reports and desk review reports, and schedules and reconciliations prepared by CU Boulder and verified them against supporting accounting records.

We assessed the reliability of the data provided by CU Boulder by 1) comparing costs charged to NSF award accounts within CU Boulder's accounting records to reported net expenditures, as reflected in CU Boulder's financial reports submitted to NSF for the corresponding periods; 2) performing general ledger to sub-ledger reconciliations of accounting data; and 3) reviewing and testing the parameters CU Boulder used to extract transaction data from its accounting records and systems. Based on our testing, we found CU Boulder's computer-processed data sufficiently reliable for the purposes of this audit.

After verifying that the transaction population was appropriate, we analyzed the data contained in the CU Boulder general ledger and supporting detailed ledgers to identify anomalies, outliers, and aberrant transactions. Then we judgmentally selected a sample of transactions to test based on predefined criteria.

The transactions identified for testing were provided to CU Boulder, with a request for the documentation to support each transaction. We reviewed the supporting documentation provided by CU Boulder and evaluated the allowability, allocability, and reasonableness of each transaction. When necessary, we requested additional supporting documentation. We also obtained explanations and justifications from knowledgeable personnel until we had sufficient support to assess the allowability, allocability, and reasonableness of each transaction. Our work required us to rely on the computer-processed data obtained from CU Boulder and NSF OIG.

We assessed NSF's computer-processed data and found it to be sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or controls over, NSF's databases were accurate or reliable; however, the independent auditors' report on NSF's financial statements for fiscal years 2015, 2016, and 2017 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

Criteria

We assessed CU Boulder's compliance with its internal policies and procedures, as well as the following:

- 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*
- 2 CFR Part 220, *Cost Principles for Educational Institutions* (Office of Management and Budget Circular A-21)
- 2 CFR Part 215, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (Office of Management and Budget Circular A-110)
- *NSF Proposal and Award Policies and Procedures Guide* (includes the *Grant Proposal Guide* and *Award and Administration Guide*)
- NSF Award Specific Terms and Condition
- NSF Federal Demonstration Partnership Research Terms and Conditions

Appendix C: Questioned Costs Summary by Award

Award Number	Direct Costs Questioned	Fringe Benefits Questioned	Indirect Costs Questioned	Total Questioned	Total Unsupported
Finding 1: Purchases Near Award Expiration					
	\$ 16,998	\$ --	\$ 2,623	\$ 19,621	\$ --
	4,998	--	2,623	7,621	--
	4,119	--	2,162	6,281	--
Finding 1 Total	26,115	--	7,408	33,523	--
Finding 2: Expenditures After Award Expiration					
	7,631	--	1,984	9,615	--
	5,930	--	1,542	7,472	--
	2,768	--	720	3,488	--
	51	--	27	78	--
Finding 2 Total	16,380	--	4,273	20,653	--
Finding 3: Unallocable or Unreasonable Travel					
	4,810	--	2,526	7,336	--
	2,950	--	767	3,717	--
	1,877	--	188	2,065	--
	594	--	312	906	--
	486	--	263	749	--
	359	--	93	452	--
	230	--	60	290	--
	214	--	56	270	--
Finding 3 Total	11,520	--	4,265	15,785	--
Finding 4: Employee Expenditures Charged as Participant Support					
	1,883	--	--	1,883	--
	1,859	--	--	1,859	--
	647	--	--	647	--
	208	--	--	208	--
Finding 4 Total	4,597	--	--	4,597	--
Finding 5: Unallocable Transactions					
	2,208	272	248	2,728	--
Finding 5 Total	2,208	272	248	2,728	--

Award Number	Direct Costs Questioned	Fringe Benefits Questioned	Indirect Costs Questioned	Total Questioned	Total Unsupported
Finding 6: Unsupported Transactions					
	1,884	--	188	2,072	2,072
	310	--	163	473	473
Finding 6 Total	2,194	--	351	2,545	2,545
Total	\$ 63,014	\$ 272	\$ 16,545	\$ 79,831	\$ 2,545



About NSF OIG

We promote effectiveness, efficiency, and economy in administering the Foundation's programs; detect and prevent fraud, waste, and abuse within NSF or by individuals who receive NSF funding; and identify and help to resolve cases of research misconduct. NSF OIG was established in 1989, in compliance with the *Inspector General Act of 1978*, as amended. Because the Inspector General reports directly to the National Science Board and Congress, the Office is organizationally independent from the Foundation.

Obtaining Copies of Our Reports

To view this and any of our other reports, please visit our website at www.nsf.gov/oig.

Connect with Us

For further information or questions, please contact us at OIGpublicaffairs@nsf.gov or 703.292.7100. Follow us on Twitter at [@nsfoig](https://twitter.com/nsfoig). Visit our website at www.nsf.gov/oig.

Report Fraud, Waste, Abuse, or Whistleblower Reprisal

- File online report: <https://www.nsf.gov/oig/report-fraud/form.jsp>
- Anonymous Hotline: 1.800.428.2189
- Email: oig@nsf.gov
- Mail: 2415 Eisenhower Avenue, Alexandria, VA 22314 ATTN: OIG HOTLINE



NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL