

# Performance Audit of Incurred Costs – University Corporation for Atmospheric Research

REPORT PREPARED BY WITHUMSMITH+BROWN, P.C.

NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL

April 26, 2019  
OIG 19-1-009





## AT A GLANCE

Performance Audit of Incurred Costs – University Corporation for  
Atmospheric Research  
Report No. OIG 19-1-009  
April 26, 2019

### AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged WithumSmith+Brown, P.C. (WSB) to conduct a performance audit of incurred costs at the University Corporation for Atmospheric Research (UCAR) for the period April 1, 2012, to March 31, 2015. The auditors tested more than \$4.6 million of the \$440 million of costs claimed to NSF. The objective of the audit was to determine if costs claimed by UCAR on NSF awards were allowable, allocable, reasonable, and in compliance with NSF and Federal financial assistance requirements.

### AUDIT RESULTS

The report highlights concerns about UCAR's compliance with certain Federal, NSF, and/or UCAR regulations and policies when allocating expenses to NSF awards. The auditors questioned \$171,804 of costs claimed by UCAR during the audit period. Specifically, the auditors found \$94,559 in unreasonable payroll transfers, \$22,048 in unreasonable travel, \$22,650 in unallowable indirect costs, \$18,902 in unreasonable legal fees, \$9,032 in unallocable retroactive salary adjustments, and \$4,613 in underspent participant support. Additionally, the auditors noted an other matter related to a weakness in UCAR's effort reporting system. 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 and one other matter in the report with associated recommendations for NSF to resolve the questioned costs and to ensure UCAR strengthens administrative and management controls.

### AUDITEE RESPONSE

UCAR agreed with all of the findings and is taking immediate steps to respond to the other matter in the report. UCAR'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 26, 2019

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

Jamie French  
Director  
Division of Grants and Agreements

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

**SUBJECT:** Audit Report No. 19-1-009, University Corporation for Atmospheric Research

This memo transmits the WithumSmith+Brown, P.C. (WSB) report for the audit of costs charged by the University Corporation for Atmospheric Research (UCAR) to its sponsored agreements with the National Science Foundation during the period April 1, 2012, to March 31, 2015. The audit encompassed more than \$4.6 million of the \$440 million claimed to NSF during the period. The objective of the audit was to determine if costs claimed by UCAR on NSF awards were allowable, allocable, reasonable, and in compliance with NSF 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](mailto:OIGpublicaffairs@nsf.gov).

#### Attachment

cc:

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Keith Nackerud

# **University Corporation for Atmospheric Research**

**Audit of Incurred Costs**

**National Science Foundation  
Office of Inspector General**

**April 17, 2019**

**OIG 19-1-009**

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## Abbreviations

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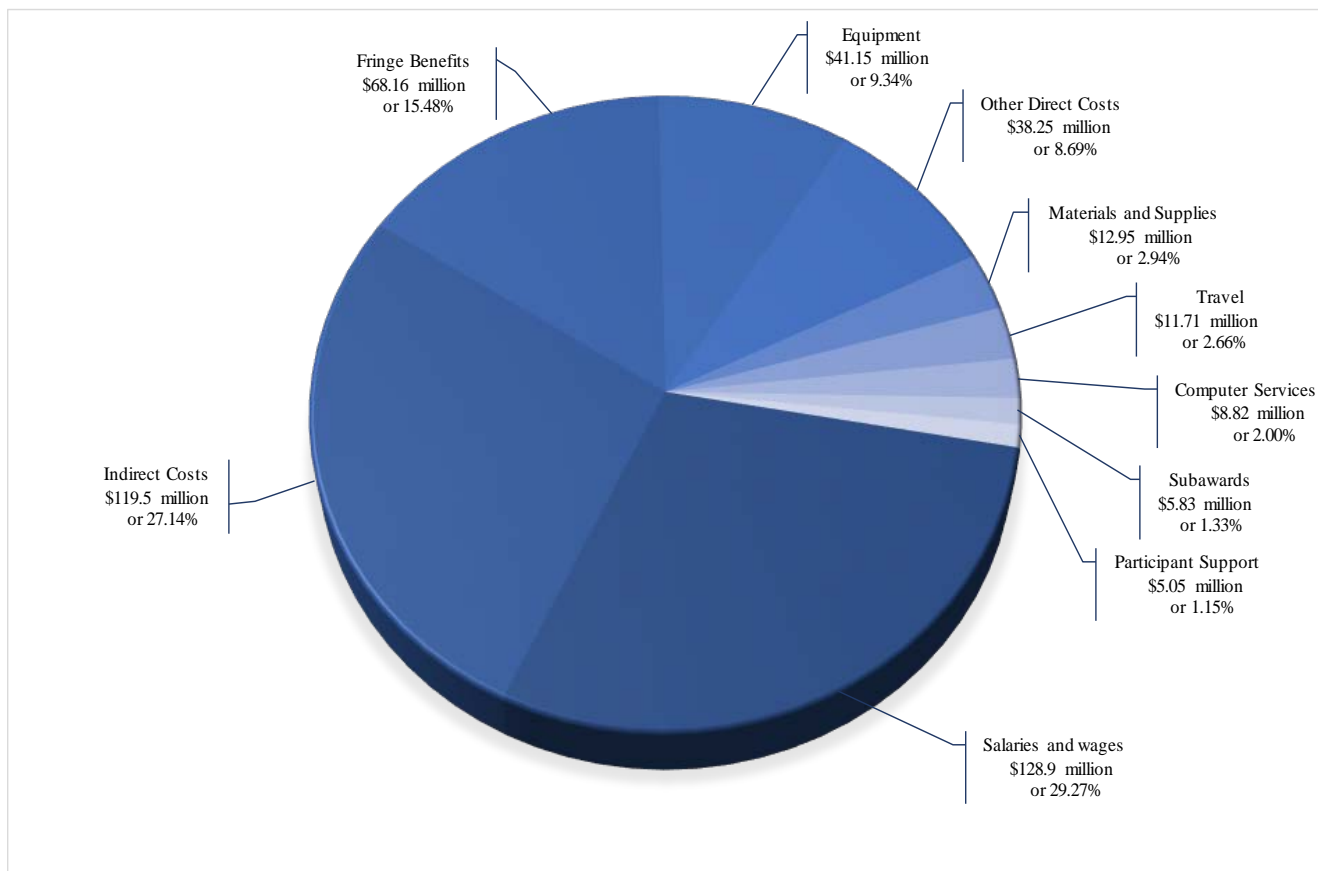
[REDACTED]	[REDACTED]
CFR	Code of Federal Regulations
[REDACTED]	[REDACTED]
F&A	Facilities and Administrative (costs)
NCAR	National Center for Atmospheric Research
[REDACTED]	[REDACTED]
OIG	Office of Inspector General
UCAR	University Corporation for Atmospheric Research

## 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; to secure the national defense; and other purposes.”<sup>1</sup> 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 Corporation for Atmospheric Research (UCAR), primarily sponsored by the NSF, is a nonprofit consortium of North American member colleges and universities focused on research and training in the atmospheric and related Earth system sciences. As illustrated in Figure 1, between April 1, 2012, and March 31, 2015, UCAR claimed approximately \$440 million of costs across 177 NSF awards. An analysis of these costs claimed by budget category, based on the accounting data provided by UCAR, is portrayed in Figure 1.

**Figure 1. Costs Claimed by NSF Budget Category, April 1, 2012 to March 31, 2015**



Source: Auditor summary of accounting data provided by UCAR

<sup>1</sup> P.L. No. 81-507 [As Amended Through P.L. 112-166, Enacted August 10, 2012]

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## Results of Audit

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WithumSmith+Brown, under contract with NSF OIG, audited the costs claimed by UCAR on NSF awards for the period beginning April 1, 2012, and ending March 31, 2015. In our testing of 250 judgmentally selected transactions, we identified 16 transactions with a total \$171,804 of questioned costs charged to 4 NSF awards. Six areas where improved oversight is needed to ensure costs claimed are reasonable and necessary in accordance with Federal and NSF award requirements include: 1) \$94,559 in unreasonable payroll transfers; 2) \$22,048 in unreasonable travel; 3) \$22,650 in unallowable indirect costs; 4) \$18,902 in unreasonable legal fees; 5) \$9,032 in unallocable retroactive salary adjustments; and 6) \$4,613 in underspent participant support. See Appendix C for a schedule of questioned costs by award.

### Finding 1: Unreasonable Payroll Transfers

During our audit, we questioned two payroll transfers made to one NSF award, totaling \$94,559. These transfers lacked adequate explanation and justification as to why the costs were allocable to the NSF award.

According to 2 CFR Part 230<sup>2</sup>, Appendix A, A.2.a. and A.2.c., to be allowable under an award, costs “must meet the following general criteria: a. Be reasonable for the performance of the award and be allocable thereto under these principles...c. Be consistent with policies and procedures that apply uniformly to both federally-financed and other activities of the organization.”

Per UCAR’s Expenditure Transfer Guidelines<sup>3</sup>, an “expenditure transfer request must have a clear justification for the request. Simply requesting to transfer the expenditures to another agreement is not adequate.” The requestor should consider the reasonableness of the transfer and whether the justification explains why the costs belong in the new agreement and/or account key.

The two payroll transfers were processed without properly documenting the reasons and justifying the need for the transfers; therefore, we question \$94,559 for the unallowable payroll transfers.

#### *Employee 1*

We questioned \$58,184 transferred from a [REDACTED] award to an NSF award. On [REDACTED] 2012, an email requested the employees’ approval for a transfer of time related to pay periods that ended up to 3 months prior to the date of the request. The original timecards, submitted and certified by the employee, included the pay periods beginning [REDACTED], 2012 and ending [REDACTED] 2012. No documentation to support the analysis of reasonableness or an explanation of the benefit to the NSF award for the transfer was provided.

All the timecards reviewed for the 3-month period included the option to record time to both the [REDACTED] award and the NSF award. In all instances, the costs were recorded to the [REDACTED] award,

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<sup>2</sup> Cost Principles for Non-Profit Organizations (OMB Circular A-122)

<sup>3</sup> Expenditure Transfer Guideline, III.3, Last Updated July 2016

submitted, approved, and certified by the employee at the end of the pay periods. Therefore, we question the reasonableness, necessity, and benefit of the \$58,184 transferred from the [REDACTED] award to the NSF award as shown in Table 1.

**Table 1. Employee 1 - Summary of Payroll Transfer to NSF Award**

Date Pay Period Start	Date Pay Period End	Date Timecard Processed	Hours Transferred	Salary, Fringe, IDC	Timecard Authorized By
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	\$ [REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED], 2012	[REDACTED] 2012	[REDACTED] 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED], 2012	[REDACTED] 2012	[REDACTED] 2012	[REDACTED]	[REDACTED]	Employee
<b>Total</b>				<b>\$ 58,184</b>	

Source: Auditor analysis of questioned transactions

UCAR subsequently explained that the non-NSF based “activities by their nature are intended to leverage NSF's investment in National Center for Atmospheric Research (NCAR). [REDACTED]

[REDACTED] however, no documentation to support the analysis of reasonableness for the adjustment out of the [REDACTED] award at the end of the award was provided for audit.

### **Employee 2**

We also questioned \$36,375 transferred from the UCAR general fund to an NSF award. On [REDACTED], 2012, an email requested the employee’s approval for a transfer of time related to pay periods that ended 3 to 6 months prior to the date of the request. The timecards, submitted and certified by the employee, included the pay periods beginning [REDACTED] 2012, and ending [REDACTED], 2012. Per the email, the adjustment was to move the time charged out of the incorrect [REDACTED] funding into the correct Operations NSF award. However, no explanation of the benefit to the NSF award for the transfer was provided. Consequently, we conclude that this adjustment was not supported by the source documentation (timecards).

Upon review of the documentation, we noted that all the timecards provided included both options, and in all instances, the costs were recorded to the [REDACTED] funding source, submitted, approved, and certified by the employee at the end of the pay periods. Therefore, we question the reasonableness, necessity and benefit of the \$36,375 transferred from the [REDACTED] funding source to the NSF award as shown in Table 2.

**Table 2. Employee 2 - Summary of Payroll Transfer to NSF Award**

Date Pay Period Start	Date Pay Period End	Date Timecard Processed	Hours Transferred	Salary, Fringe, IDC	Timecard Authorized By
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	\$ [REDACTED]	Employee
[REDACTED], 2012	[REDACTED], 2012	[REDACTED] 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED] 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED], 2012	[REDACTED], 2012	[REDACTED] 2012	[REDACTED]	[REDACTED]	Employee
[REDACTED] 2012	[REDACTED], 2012	[REDACTED], 2012	[REDACTED]	[REDACTED]	Employee
<b>Total</b>				<b>\$ 36,375</b>	

Source: Auditor analysis of questioned transactions

UCAR subsequently explained that there was a large, joint workshop during the period in question.

[REDACTED] However, no documentation to support the analysis of the reasonableness or an explanation as to why these costs belonged to the NSF award was provided for audit.

UCAR personnel did not adequately document or review payroll transfers made to NSF awards, which resulted in unallowable costs. Without following the existing policies and procedures in place to ensure payroll transfers are reasonable and have adequate documentation and explanation, there is increased risk that funds may not be used as required to accomplish the necessary project objectives in accordance with Federal and NSF requirements. Furthermore, the subsequent adjustments to accounting records and funding sources brings into question the overall integrity of the time and effort reporting system.

### ***Recommendations***

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

1. Resolve the \$94,559 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UCAR to strengthen the administrative and management controls over payroll transfers charged to NSF awards to ensure current policies and procedures are followed.

### ***Awardee Response***

UCAR stated that it accepts the findings and will take action to transfer the charges from the NSF awards. In addition, UCAR will strengthen controls over payroll transfers through training and coordination with the labs and programs. UCAR will also ensure that adequate supporting documentation is maintained and will require approval for all transfers over four months from the original date of the transaction.

See Appendix A for the complete UCAR response.

### ***Auditor's Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$94,559 in questioned costs have been returned, this finding should be closed.

## **Finding 2: Unreasonable Travel**

We identified several travel costs that did not appear reasonable and necessary for the awards charged or were not in compliance with NSF requirements.

### ***Travel Was Not Reasonable or Allocable***

We questioned \$22,048 in travel costs: \$20,932 for unreasonable or unallocable travel charged to one cooperative agreement and \$1,116 for personal travel charged to one award.

#### **Unreasonable or Unallocable Travel charged to Cooperative Agreement**

We questioned \$17,513 charged for airfare for an individual to spend [REDACTED] days at the International Supercomputing Conference in [REDACTED] and [REDACTED] days at the [REDACTED] in [REDACTED]. [REDACTED] at the International Superconducting Conference. Managed by UCAR, NCAR is also a consortium of universities with support from NSF. Per UCAR, it was necessary for this individual to represent NCAR at the conference.

Per the UCAR travel policies, "Business-class fares are allowable for international travel when the trip has a one-way in-flight segment of 10 hours or more or where the total elapsed one-way in-flight time is 15 hours or more without overnight stopovers."<sup>4</sup> Due to the final segment of this trip, as described in Table 5, the business class flight was allowable per the UCAR travel policy; however, the ticket costing \$17,513, purchased on May [REDACTED], for a flight departing on June [REDACTED], was excessive and wasteful, and therefore, not reasonable or prudent.<sup>5</sup>

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<sup>4</sup> Per the UCAR Finance & Administration Policies and Procedures, Section 5-7 Travel: 11.B.2

<sup>5</sup> According to 2 CFR Part 230, Appendix A, to be allowable under an award, costs must be 1) reasonable for the performance of the award and be allocable thereto under these principles...A cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the costs.

**Table 3. Breakdown of Flight Segment Length for Airfare to [REDACTED] and [REDACTED]**

Date	Origin Destination	Departure	Arrival	Flight Time	Class
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	3 hrs. 24 mins	Business
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	8 hrs.	Business
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Coach
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Coach
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Coach
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	1 hr. 40 mins	Business
June [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	10 hrs. 10 mins	Business

Source: Auditor analysis of questioned transactions

Per UCAR, the NSF cooperative agreement states that, NCAR is expected to work in close collaboration with NSF, the traveler's university, and the broader scientific community to build, operate, and maintain shared observational facilities, computational infrastructure, and databases; and make them accessible to the community. To that end, the traveler met with [REDACTED] to further the collaboration between NCAR and [REDACTED]. While in [REDACTED] the traveler stayed with the [REDACTED], so no lodging was charged to the cooperative agreement.

We questioned \$450 for excessive lodging expenditures while the individual stayed in [REDACTED] [REDACTED] for the International Supercomputing Conference. The individual stayed [REDACTED] nights at a 5-star luxury resort and charged the cooperative agreement \$[REDACTED] per night. The prevailing rate per the U.S. Department of State in June [REDACTED] was \$[REDACTED] per night. Per the UCAR travel policy, "[d]omestic and international travelers are reimbursed for the actual reasonable costs of lodging. Single-room accommodations are appropriate and should be requested by employees when traveling on UCAR business. Travelers should seek government-discount or lower rates for lodging accommodations whenever such rates are available."<sup>6</sup> No documentation was provided to support the search for accommodations at the government rate or unavailability of such rate; and therefore, we question \$450 for the excessive lodging expenditures.

In addition, we questioned \$1,615 charged to the cooperative agreement for lodging expenditures in [REDACTED] [REDACTED] from [REDACTED], 2012. The explanation provided by UCAR was not sufficient to support the allocation of these costs to the NSF award.<sup>7</sup> The travel voucher provided by UCAR states the purpose of the trip was to attend meetings to begin work on a [REDACTED]

<sup>6</sup> Per the UCAR Finance & Administration Policies and Procedures, Section 5-7 Travel: 12.A

<sup>7</sup> 2 CFR Part 230, Appendix A, Section A.4. states that a "cost is allocable to a particular cost objective, such as a grant, contract, project, service, or other activity, in accordance with the relative benefits received. A cost is allocable to a Federal award if it is treated consistently with other costs incurred for the same purpose in like circumstances and if it: (1) is incurred specifically for the award."

██████████ funded ██████████ Project. Per UCAR, this travel was to talk with key partners to determine "...how such study would be designed and who would do what and how ██████████ proposal would be best developed to address the issue. However, NCAR did not receive ██████████ award for this project. So the expense is justified under the NSF co-op, being within the scope of NCAR's mission..." This trip was related to research to develop ██████████ funded proposal and therefore, should not have been charged to NSF.<sup>8</sup> UCAR stated that these charges "fit entirely within the scope of NCAR's mission of science in support of society." However, no documentation was provided to support that this charge was beneficial and allocable to the NSF award. Additionally, no support for the collaborations or meetings attended while in ██████████ were provided.

We also questioned \$1,354 charged to the cooperative agreement for lodging expenditures in ██████████ from ██████████, 2014. The explanation provided by UCAR was not sufficient to support the allocation of these costs to the NSF award. The travel explanation provided the purpose for the visit to ██████████ and ██████████, but not to ██████████. Per 2 CFR Part 230, a cost is allocable to a project in accordance to the benefit received.<sup>9</sup> Based on the information provided, no benefit to this cooperative agreement for the travel in ██████████ was evident.

#### Travel Expenses on Personal Days Charged to NSF Award

We questioned \$1,116 charged to one award for personal travel expenses while the Principal Investigator (PI) traveled to ██████████ to attend a conference. The PI flew to ██████████ on ██████████, 2013 for a conference that did not begin until ██████████, 2013. UCAR stated that the trip included only one personal day. The PI could have flown on ██████████, 2013, to arrive in ██████████ in time for the start of the conference but instead flew on ██████████, 2013. Therefore, we found that the trip included two personal days and the charges described in Table 4 are questioned.

**Table 4: Description of Questioned Costs Charged to NSF Award on Personal Days**

Category	Days	Total	Comment
Per Diem	1	\$ 184	UCAR excluded 1 day from the original travel voucher
Rental Car	1	111	UCAR excluded 1 day from the original travel voucher
Hotel Parking	2	74	
Lodging	2	722	
Airport Parking	2	25	
<b>Total Questioned</b>		<b>\$ 1,116</b>	

Source: Auditor analysis of questioned transactions

<sup>8</sup> 2 CFR Part 230, Appendix A, Section B.1. states that "[d]irect costs are those that can be identified specifically with a particular final cost objective, i.e., a particular award, project, service, or other direct activity of an organization. ... Costs identified specifically with awards are direct costs of the awards and are to be assigned directly thereto. Costs identified specifically with other final cost objectives of the organization are direct costs of those cost objectives and are not to be assigned to other awards directly or indirectly."

<sup>9</sup> 2 CFR Part 230, Appendix A.A.4, "a cost is allocable to a particular cost objective...in accordance with the relative benefits received."

UCAR agreed the failure to exclude the second night of lodging before the conference was an oversight and the related costs should not have been charged to the NSF award.

UCAR personnel did not adequately review the travel expenses charged to NSF awards, which resulted in unreasonable and unallocable costs. Without a process in place to ensure that existing policies and procedures are followed, there is the increased 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 \$22,048 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UCAR to strengthen the administrative and management controls over travel expenditures charged to NSF awards to ensure current policies and procedures are followed.

### ***Summary of Awardee Response***

UCAR stated that it accepts the finding and will remove those charges from the NSF award. UCAR will strengthen controls over travel expenditures to take into consideration the Department of State per diem rates for travel in foreign areas. Additionally, UCAR will implement system controls to cap international and domestic airfare. Any travel exceeding the capped rate will require additional justification/comment from the traveler.

See Appendix A for the complete UCAR response.

### ***Auditors' Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$22,048 in questioned costs have been returned, this finding should be closed.

## **Finding 3: Unallowable Indirect Costs and Mischarging of Direct Costs**

We questioned \$22,650 in indirect costs: \$16,764 for improper allocation of indirect Facilities & Administrative (F&A) costs and \$5,886 for direct charges that should have been treated as indirect costs.

### ***Improper Allocation of Indirect F&A Costs***

F&A costs totaling \$16,764 were charged to one NSF award for component parts purchased to be used in the building of a satellite system. UCAR purchased \$55,516 in parts recorded as materials

and supplies. Per UCAR, the parts would not “function independent of the asset they are being built into.” Additionally, per UCAR, for

“a Constructed Fixed Asset we are required to capture all of the costs necessary to the creation of said asset. The acquisition cost of a Constructed Fixed Asset is the total paid for all costs (equipment, materials, services, supplies, freight, salaries, benefits, overhead, etc.) incurred in the process of designing and building the asset...A major point about a Constructed Fixed Asset is that the final, functioning asset is not available “off the shelf” for a direct purchase, but it is built or constructed by UCAR to unique specifications. These are referred to as CIPs (construction in process) or Constructed Assets. When a lab or program is planning to construct a Fixed Asset [it] initially create[s] an account key that has the “CIP” designation attached to that key. Our financial accounting system is designed to recognize that the costs associated with that account key are going to become part of a Constructed Fixed Asset.”

Per 2 CFR 230, asset costs mean the capitalizable costs, including construction costs, acquisition costs, and other such costs to be capitalized in accordance with Generally Accepted Accounting Principles.<sup>10</sup> Therefore, these parts, and all parts associated with building this asset, should have been treated as acquisition costs of the capital asset (satellite system) and indirect F&A costs are unallowable.

We questioned \$16,764 in indirect F&A costs applied to the components selected for audit as described in Table 5.

**Table 5. Description of Questioned F&A Costs**

	Quantity	Unit Price	Total Cost	IDC
<b>DC Converter Component</b>	4	\$ 7,272	\$ 29,088	\$ 8,382
<b>DC Converter Component</b>	4	6,607	26,428	8,382
<b>Total Questioned</b>			<b>\$ 55,516</b>	<b>\$ 16,764</b>

*Source:* Auditor analysis of questioned transactions

UCAR stated that the indirect F&A costs were allowable on these parts because these items were purchased to be included in an asset being constructed (including multiple parts) and is not a stand-alone capitalizable asset with an associated useful life; therefore, the cost of the part bears overhead. However, per 2 CFR Part 230, “[e]quipment and other capital expenditures are unallowable as indirect costs.”<sup>11</sup> Indirect costs are to be distributed on the basis of modified total direct costs. Equipment and capital expenditures shall be excluded from modified total direct costs.<sup>12</sup>

<sup>10</sup> 2 CFR Part 230, Appendix B, 23.c.3, “Asset costs means the capitalizable costs of an asset, including construction costs, acquisition costs, and other such costs capitalized in accordance with GAAP”

<sup>11</sup> 2 CFR Part 230, Appendix B, 15.b.5, Equipment and other capital expenditures are unallowable as indirect costs.

<sup>12</sup> 2 CFR Part 230, Appendix A, D.3.f., “Indirect costs shall be distributed to applicable sponsored awards and other benefiting activities within each major function on the basis of MTDC...Equipment, capital expenditures, charges for patient care, rental costs and the portion in excess of \$25,000 shall be excluded from MTDC.”

UCAR personnel incorrectly recorded the transactions as materials and supplies, and therefore, the purchases were assessed indirect costs. Without an effective process in place to ensure construction in process is properly coded and excluded from modified total direct costs, there is increased risk that funds may not be spent in accordance with Federal requirements.

#### **Direct Costs that should be Indirect Costs**

We questioned \$5,886 in charges to an award for the purchase of printer toner cartridges. According to 2 CFR Part 230, Appendix A, Section D.4.b, “Items such as office supplies, postage, local telephone costs, periodicals and memberships should normally be treated as indirect costs.” The use of these toner cartridges could not be specifically identified to the final cost objective for the award.

UCAR coded the purchases as a direct charge to material and supplies for the award and then allocated indirect costs to items that should have been excluded. The purchase did not comply with 2 CFR Part 230 in ensuring that indirect costs are not charged directly to a Federal award. UCAR agreed that these costs should be removed from the award.

#### ***Recommendations***

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

1. Resolve the \$22,650 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over indirect costs charged to NSF awards.

#### ***Summary of Awardee Response***

UCAR stated that it accepts the finding and will remove those charges from the NSF award. UCAR personnel will also undergo continued allowable cost training throughout the year. The training will include discussions about allocable expenditures along with a review of the existing miscellaneous expenditures guidelines. Additionally, UCAR will revise the criteria for constructed assets and train the appropriate level staff. This revision will clearly define when it is appropriate to charge overhead to a constructed asset component.

See Appendix A for the complete UCAR response.

#### ***Auditors’ Additional Comments***

UCAR’s comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$22,650 in questioned costs have been returned, this finding should be closed.

## Finding 4: Unreasonable Legal Fees

We questioned \$18,902 for legal fees, charged to two NSF awards, for research and the filing of immigration petitions for two employees.

Per 2 CFR Part 230 a cost is allocable to a particular grant in accordance with the relative benefits received.<sup>13</sup> Charging the NSF awards for legal fees related to the research and filing of forms for an employee to become a permanent resident in the United States is not reasonable or allocable to the federal award.<sup>14</sup> UCAR stated that the petition for permanent residency status were “an essential step for [each] individual’s continued and hopefully, permanent employment at the Center.” However, if UCAR filed the petitions for permanent residency status for the employees in hopes of the individuals maintaining permanent employment at the Center, then the costs should have been charged to a general fund, not a Federal award. It also does not appear that either individual’s petition for permanent residency status was a requirement for, or necessary for, the conduct of this award.

It should be noted that in February 2014, — not in effect for the awards we are questioning —NSF added guidance to the *NSF Proposal and Award Policies and Procedures Guide, Grant Proposal Guide*:

“Short-term, travel visa costs (as opposed to longer-term, immigration visas) are generally allowable expenses that may be proposed as a direct cost on an NSF proposal. Since short-term visas are issued for a specific period and purpose, they can be clearly identified as directly connected to work performed on an NSF-related project. For these costs to be included on an NSF budget, they must:

- be critical and necessary for the conduct of the project;
- be allowable under the applicable cost principles;
- be consistent with the organization’s cost accounting practices and organizational policy; and
- meet the definition of ‘direct cost’ as described in the applicable cost principles.”<sup>15</sup>

The NSF guidance is consistent with Federal cost principles for reasonableness and allocability, which state that all costs must be fully allocable to the award that they are charged and solely to advance the work under that award. In addition, the guidance reinforces NSF’s intent that immigration cost reimbursement is allowable for short-term, project-specific purposes, and not as a long-term hiring strategy for its awardees.

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<sup>13</sup> 2 CFR Part 230, Appendix A, 4. “A cost is allocable to a particular cost objective, such as a grant, contract, project, service, or other activity, in accordance with the relative benefits received. A cost is allocable to a Federal award if it is treated consistently with other costs incurred for the same purpose in like circumstances and if it: (1) Is incurred specifically for the award. (2) Benefits both the award and other work and can be distributed in reasonable proportion to the benefits received...”

<sup>14</sup> 2 CFR Part 230, Appendix A, 2.a “to be allowable under an award, costs must meet the following general criteria: a) be reasonable for the performance of the award and be allocable thereto under these principles...”

<sup>15</sup> NSF *Grant Proposal Guide* (effective February 24, 2014), Chapter II.C.2.g(vi)(f) Visa Costs.

UCAR personnel did not adequately review the legal fees charged to the NSF award, which resulted in unreasonable and unallocable costs. Without a process in place to ensure costs are reasonable and allocable, there is increased 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 \$18,902 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over legal fees charged to the NSF award.

### ***Summary of Awardee Response***

UCAR stated that it accepts the finding and will remove those charges from the NSF awards. Going forward, UCAR will only allow short-term travel visa costs to be directly charged to an NSF award. Additionally, UCAR is developing new guidelines to address the visas and permanent residency costs.

See Appendix A for the complete UCAR response.

### ***Auditors' Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$18,902 in questioned costs have been returned, this finding should be closed.

## **Finding 5: Unallocable Retroactive Salary Adjustments**

We questioned \$9,032 for retroactive payments to employees that charged the entire amount of a prior period pay increase to the NSF award, rather than allocate the pay based on the employees' actual time spent working on the NSF award. According to 2 CFR Part 230, to be allowable for a Federal grant, a cost must be allocable to the Federal award and be necessary and reasonable for the administration and performance of the award.<sup>16</sup>

We identified three transactions, charged to one award, totaling \$9,032 for retroactive pay that was not allocable to the award as described in Table 6.

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<sup>16</sup> According to 2 CFR Part 230, Appendix A.A.2, to be allowable under an award, costs must be: a. reasonable for the performance of the award and be allocable under these principles; b. consistent with policies and procedures that apply uniformly to both federally-financed and other activities of the organization; c. accorded consistent treatment; d. determined in accordance with generally accepted accounting principles; and e. adequately documented. Section A.3 states that, a cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the costs. Per Section A.4.b, any cost allocable to a particular award or other cost objective under these principles may not be shifted to other Federal awards to overcome funding deficiencies, or to avoid restrictions imposed by law or by the terms of the award.

**Table 6. Summary of Retroactive Pay Not Allocable to the NSF Award**

Award ID	Hours Questioned	Hourly Retro Pay Rate	Retro Pay Questioned	Fringe Questioned	IDC Questioned	Total Questioned
		\$	\$	\$	\$	\$
<b>Total Questioned</b>			<b>\$ 3,821</b>	<b>\$ 2,038</b>	<b>\$ 3,173</b>	<b>\$ 9,032</b>

*Source:* Auditor analysis of questioned transactions

During our audit period, UCAR retroactively paid employees for a prior period pay increase. Per UCAR, prior to June 30, 2015, retroactive pay was charged to the program where the employee predominately worked. If the reviewer found the amount of time was significant to the lab, the retroactive pay would be manually allocated to the other programs charged by the employee during the retroactive pay period. A subsequent system change ensures that all programs worked on by the employee during the retroactive period are charged the retroactive pay accordingly.

Although UCAR did not believe that the hours described in Table 6 were significant to the lab, these hours were not worked on the NSF award and were therefore not allocable to the NSF award. UCAR agreed that the retroactive pay not allocable to the NSF award should be removed from the award.

UCAR personnel did not adequately review the expenditures charged to the NSF award, which resulted in unallocable costs. Without a process in place to ensure costs are allocable and reasonable, there is the increased 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 \$9,032 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to ensure that the subsequent payroll system is designed to properly allocate the pay based on the employee's actual time spent working on an award.

### ***Summary of Awardee Response***

UCAR stated that it accepts the finding and will remove the retroactive pay charges from the NSF award. UCAR also stated that the payroll office has confirmed that all programs benefiting from retroactive salary payments were appropriately charged from 2015 onward.

See Appendix A for the complete UCAR response.

### ***Auditors' Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$9,032 in questioned costs have been returned, this finding should be closed.

## **Finding 6: Underspent Participant Support**

We question \$4,613 for underspent participant support costs transferred to other categories without specific written approval.

The participant support funds were used for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer; therefore, we question the difference between the budgeted and actual expenditures as noted in Table 7.

**Table 7. Summary of Questioned Participant Support**

	Budget	Actual	Difference
<b>Participant Support</b>	\$ 21,533	\$ 8,098	\$ 13,435
<b>Proposal Budget</b>	25,273	16,451	8,822
<b>Total Questioned</b>			<b>\$ 4,613</b>

*Source:* Auditor analysis of questioned transactions

UCAR believed that its communication (via e-mail) of intent to use the funds for salary and wages was sufficient to allow the funds to be re-budgeted. However, the email discusses the approval of participant support funds for attendance at the [REDACTED] conference; it does not support specific approval to re-budget the funds from participant support for other categories of expense. Per the *NSF Grant Proposal Guide* Chapter V, B.8.a, “[f]unds provided for participant support may not be used for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer.”<sup>17</sup> No approval was received; therefore, the underspent award balance is questioned.

UCAR personnel did not adequately review the re-budgeting of participant support on the NSF award, which resulted in unallowable costs. Without a process in place to ensure participant support costs are not re-budgeted without specific prior written approval, there is the increased 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:

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<sup>17</sup> NSF Proposal and Award Policies and Procedures Guide, Award & Administration Guide, NSF 11-1

1. Resolve the \$4,613 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over participant support costs charged to other categories of expense on NSF awards.

### ***Summary of Awardee Response***

UCAR stated that it accepts the finding and will remove the charges from the NSF award. In addition, UCAR initiated training to remind staff that spending outside the participant support budget category requires additional approval. In April 2018, UCAR implemented the Kuali awards management platform. The Kuali platform highlights the categories, such as participant support, that require prior approval to transfer funds based on award terms.

See Appendix A for the complete UCAR response.

### ***Auditors' Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed and the \$4,613 in questioned costs have been returned, this finding should be closed.

## **Other Matter:**

### ***Weakness in the Effort Reporting System***

The processes and controls surrounding UCAR's effort reporting system contained weaknesses that made it possible for time reports to be submitted, certified and approved prior to the work being performed.

For 48 of the 72 time and effort reports tested, we determined that the time and effort reports were not submitted, certified and approved after the hours were actually worked, as required by Federal regulations. For the time and effort reports tested, 66 percent were submitted, certified and approved prior to the end of the pay period.

Per 2 CFR Part 230, Appendix B.8.m.(1):

“Charges to awards for salaries and wages, whether treated as direct or indirect costs, will be based on documented payrolls approved by a responsible official(s) of the organization. The distribution of salaries and wages to awards must be supported by personnel activity reports, as prescribed in subparagraph 8.m.(2) of this appendix, except when a substitute system has been approved in writing by the cognizant agency.”

Subparagraph 8.m.(2)(a) further states that:

“Reports maintained by non-profit organizations to satisfy these requirements must meet the following standards: (a) The reports must reflect an **after-the-fact** [emphasis added] determination of the actual activity of each employee. Budget estimates (i.e., estimates determined before the services are performed) do not qualify as support for charges to awards.”<sup>18</sup>

According to UCAR, the time and effort reporting system was designed to provide flexibility to employees and supervisors allowing them to enter and approve time cards prior to the end of each pay period. UCAR allows for early entry of timecards because there are built in mechanisms in the time card system to make changes after the time card is submitted and approved. Although the system allows for employees to initiate changes to time and effort reports submitted prior to the end of the pay period, there do not appear to be controls in place to ensure an employee makes corrections should circumstances require it.

As a result, the time and effort reporting system allows for the reporting of time prior to the end of a pay period, which violates the after-the-fact reporting requirements, and, is therefore not in compliance with Federal regulations.

Additionally, the time and effort reporting system allows non-exempt (salaried) employees to report their time each pay period in summary, rather than by day. Therefore, we were unable to determine or quantify the amount of time charged to NSF awards, that did not meet the after-the-fact requirements, so we did not question any costs.

### ***Recommendation***

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

1. Direct UCAR to implement procedures and controls to permit only after-the-fact time reporting in compliance with Federal regulations, rather than allowing for reporting prior to the end of a pay period.

### ***Summary of Awardee Response***

UCAR acknowledges that the current system allows for the early approval of the time cards. UCAR stated that it is in the process of implementing the Workday Human Capital Management system. The new system will not allow an employee to submit their timecard until the day of their last recorded worked hours. As a result, supervisors will not be able to approve time cards, until the day of the last recorded worked hours.

See Appendix A for the complete UCAR response.

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<sup>18</sup> 2 CFR Part 230, *Cost Principles for Non-Profit Organizations (OMB Circular A-122)*

***Auditors' Additional Comments***

UCAR's comments are responsive to this finding. Once NSF determines that the recommendations have been adequately addressed, this finding should be closed.

*William Smith + Brown, PC*

April 17, 2019

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## Appendix A: Awardee Response

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Date: April 17, 2019

National Science Foundation  
Office of Inspector General

RE: Response from the University Corporation for Atmospheric Research – Audit of Incurred Costs on NSF awards for the period beginning April 1, 2012, and ending March 31, 2015.

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***Finding 1:***

During our audit, we questioned two payroll transfers made to one NSF award, totaling \$94,559. These transfers lacked adequate explanation and justification as to why the costs were allocable to the NSF award.

According to 2 CFR 230, Appendix A, A.2.a. and A.2.c., to be allowable under an award, costs “must meet the following general criteria: a. Be reasonable for the performance of the award and be allocable thereto under these principles...c. Be consistent with policies and procedures that apply uniformly to both federally-financed and other activities of the organization.”

***Recommendation 1:***

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

1. Resolve the \$94,559 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UCAR to strengthen the administrative and management controls over payroll transfers charged to NSF awards to ensure current policies and procedures are followed.

***Awardee Response 1:***

UCAR accepts findings for Employee 1 (\$58,184) and 2 (\$36,375) and will take action to transfer the charges from the NSF award.

***Proposed Corrective Action***

UCAR will strengthen its controls over payroll transfers through training and coordination with the labs and programs. UCAR will assist labs and programs with identifying adequate support documentation and will require Office of the CFO approval for all transfers over four months. The change takes effect with the April 2019 transfers. (Completed by April 2019, Subject Matter Expert - [REDACTED]@ucar.edu)

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***Finding 2: Unreasonable Travel***

We identified several travel costs that did not appear reasonable and necessary for the awards charged or were not in compliance with NSF requirements.

Travel Was Not Reasonable or Allocable

We questioned \$22,048 in travel costs: \$20,932 for unreasonable or unallocable travel charged to one cooperative agreement and \$1,116 for personal travel charged to one award.

***Recommendation 2:***

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

1. Resolve the \$22,048 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UCAR to strengthen the administrative and management controls over travel expenditures charged to NSF awards to ensure current policies and procedures are followed.

***Awardee Response 2:***

UCAR accepts the finding for excessive and wasteful travel in the amount of \$22,048 and will remove those charges from the NSF award.

***Proposed Corrective Action***

UCAR will strengthen its controls over excessive travel expenditures in consideration of the state department issued lodging rates. UCAR will implement audit rules in Concur to cap international and domestic airfare requiring further justification/comment from traveler. (Completed by June 2019, Subject Matter Expert - [REDACTED]  
[REDACTED]@ucar.edu)

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***Finding 3: Unallowable Indirect Costs and Mischarging of Direct Costs***

We questioned \$22,650 in indirect costs; \$16,764 for improper allocation of indirect F&A costs and \$5,886 for direct charges that should have been treated as indirect costs.

***Recommendation 3***

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

1. Resolve the \$16,764 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over indirect costs charged to NSF awards.

***Awardee Response 3:***

UCAR accepts the finding for the \$5,886 for printer toner cartridges – UCAR has already removed the cost from the NSF award as of 1/31/18.

UCAR accepts the improper allocation of indirect F&A costs for a constructed asset in amount \$16,764 and will remove those charges from the NSF award.

***Proposed Corrective Action***

UCAR commits to continued cost training for labs and programs throughout the year. This will include meetings with all lab/program administrators to discuss allocable expenditures along with reviewing the miscellaneous expenditures guidelines. UCAR will revise the constructed asset criteria for when overhead is applied and train Division Property Administrators on May 2019, hold a constructed asset training on June 2019, and conduct one-on-one training for purchasers daily as they purchase throughout the year. The Property website will be updated by April 2019 to show the policy revisions. The procurement staff will have immediate training on the changes by April 2019. (All completed by June 2019, Subject Matter Expert - [REDACTED]@ucar.edu).

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***Finding 4: Unreasonable Legal Fees***

We questioned \$18,902 for legal fees, charged to two NSF awards, for research and the filing of immigration petitions for two employees.

Per 2 CFR 230 a cost is allocable to a particular grant in accordance with the relative benefits received. Charging the NSF awards for legal fees related to the research and filing of forms for an employee to become a permanent resident in the United States is not reasonable or allocable to the federal award.

***Recommendation 4:***

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

1. Resolve the \$18,902 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over legal fees charged to the NSF award.

***Awardee Response 4:***

UCAR accepts this finding for the \$18,902 in legal fees related to filing of immigration petitions and will remove these expenses from the NSF award.

***Proposed Corrective Action***

UCAR will follow the PAPPG allowing only short-term travel visa costs to be allowable expenses on a direct award. UCAR is developing a new guideline for visas and permanent residency costs. The guideline will clarify that only visas within the period of performance of the award are allowable as direct charges on that specific award. (Completed by September 2019, Subject Matter Expert - [REDACTED]@ucar.edu)

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***Finding 5: Unallocable Retroactive Salary Adjustments***

We found UCAR retroactively paid employees for a prior period pay increase and charged the entire amount to the NSF award, rather than allocate the pay based on the employees' actual time spent working on the NSF award. According to 2 CFR 230, to be allowable for a Federal grant, a cost must be allocable to the Federal award and be necessary and reasonable for the administration and performance of the award.

We identified three transactions, charged to one award, totaling \$9,032 for retroactive pay that was not allocable to the award as described in Table 6.

***Recommendation 5:***

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

1. Resolve the \$9,032 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to ensure that the subsequent payroll system is designed to properly allocate the pay based on the employee's actual time spent working on an award.

***Awardee Response 5:*** UCAR accepts this recommendation and has transferred all of these costs as of 1/31/18 to the programs that benefited from the retro pay.

***Proposed Corrective Action***

The UCAR payroll office confirmed that all programs benefiting from a salary retro payment are appropriately charged from 2015 and forward. (Completed, Subject Matter Expert - [REDACTED]@ucar.edu)

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***Finding 6: Underspent Participant Support***

We question \$4,613 for underspent participant support costs transferred to other categories without specific written approval.

The participant support funds were used for other categories of expense without the specific prior written approval of the NSF cognizant Program Officer; therefore, we question the difference between the budgeted and actual expenditures as noted in Table 7.

***Recommendation 6:***

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

1. Resolve the \$4,613 of questioned costs, and direct UCAR to repay or otherwise remove the sustained questioned costs from its NSF Awards.
2. Direct UCAR to strengthen the administrative and management controls over participant support costs charged to other categories of expense on NSF awards.

***Awardee Response 6:***

UCAR accepts this finding for the \$4,613 in Participant Support Costs (PSC) related to spending outside the budget categories and will remove these expenses from the NSF award.

***Proposed Corrective Action***

UCAR initiated a recent training in March/April 2019 to remind labs and programs that any spending outside the PSC category requires a budget change request. In addition, UCAR implemented Kuali, an awards management platform, in April 2018. The Kuali system allows labs and programs to review the terms of conditions that require prior approval. Sponsor approval for the transfer of funds budgeted for PSC to other categories of expense is recorded when applicable based on an award's terms.

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***Other Matter:***

The processes and controls surrounding UCAR's effort reporting system contained weaknesses that made it possible for the time reports to be submitted, certified and approved prior to the work being performed.

For 48 of the 72 time and effort reports tested, we determined that the time and effort reports were not submitted, certified and approved after the hours were actually worked, as required by Federal regulations. For the time and effort reports tested, 66 percent were submitted, certified and approved prior to the end of the pay period.

***Recommendation Other Matter:***

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

1. Direct UCAR to implement procedures and controls to permit only after-the-fact time reporting in compliance with Federal regulations, rather than allowing for reporting prior to the end of a pay period.

***Awardee Response Other Matter:***

UCAR acknowledges that the timecard system allows timecards to be approved before the end of the pay period.

***Proposed Corrective Action***

UCAR is taking immediate steps to respond to this matter through the implementation of Workday Human Capital Management system scheduled for July 2019. UCAR configured the Workday time tracking application to not allow an employee to submit their timecard until the day of their last recorded worked hours. As a result, supervisors/managers will not be able to approve time cards, until the day of the last recorded worked hours. (Completed by July 2019, Subject Matter Expert - [REDACTED]@ucar.edu).

Please contact me if you have any questions/concerns at [REDACTED]@ucar.edu.

Sincerely,

[REDACTED]

Patty Leslie  
UCAR Chief Financial Officer

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## **Appendix B: Objective, Scope, Methodology, and Criteria**

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### **Objective**

To determine if costs claimed by UCAR 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 UCAR through the Award Cash Management Service for the 3-year period beginning April 1, 2012, through March 31, 2015. NSF OIG obtained from UCAR all award transactions comprising all costs claimed to NSF during this period. This provided an audit universe of approximately \$440 million, in more than 411,000 transactions, across 177 individual NSF awards. For transaction testing, NSF OIG judgmentally selected 250 transactions totaling more than \$4.6 million and utilized a data analytics approach to identify potential risk areas.

The audit work was conducted at the auditors' offices; at NSF in Arlington, Virginia; and onsite at UCAR in Boulder, Colorado. Onsite fieldwork was conducted during December 2016. 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 UCAR personnel to ensure that they were aware of each of our findings and did not have any additional documentation to support the questioned costs.

UCAR 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 UCAR's internal control solely for the purpose of understanding the policies and procedures relevant to the financial reporting and administration of NSF awards in order to evaluate UCAR's compliance with laws, regulations, and award terms applicable to the items selected for testing, but not for the purpose of expressing an opinion on the effectiveness of UCAR's internal control over award financial reporting and administration. Accordingly, we do not express an opinion on the effectiveness of UCAR'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 NSF OIG's request, UCAR provided detailed transaction data for all costs charged to NSF awards for the period April 1, 2012, through March 31, 2015. NSF OIG 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 UCAR and agreed them to supporting accounting records.

After verifying that the population of data was appropriate, NSF OIG analyzed the data contained in the UCAR general ledger and supporting detailed ledgers to identify anomalies, outliers, and aberrant transactions. NSF OIG then judgmentally selected a sample of transactions to test based on NSF OIG-defined criteria.

NSF OIG identified transactions for testing, provided this list to UCAR, and requested documentation to support each transaction. We reviewed the supporting documentation provided by UCAR and evaluated the allowability, allocability, and reasonableness of each transaction. When necessary, we requested additional supporting documentation, reviewed it, and 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 UCAR and NSF OIG. We assessed NSF's computer-processed data and found it to be sufficiently reliable for the purposes of this audit.

## **Criteria**

We assessed UCAR'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 230, *Cost Principles for Non-Profit Organizations* (OMB Circular A-122);
- 2 CFR Part 215, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (OMB 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 Conditions; and
- 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
<b>Finding 1: Unreasonable Payroll Transfers</b>					
	\$ 41,692	\$ 21,138	\$ 31,729	\$ 94,559	\$ --
<b>Finding 1 Total</b>	<b>41,692</b>	<b>21,138</b>	<b>31,729</b>	<b>94,559</b>	<b>--</b>
<b>Finding 2: Unreasonable Travel</b>					
	13,565	--	7,367	20,932	--
	723	--	393	1,116	--
<b>Finding 2 Total</b>	<b>14,288</b>	<b>--</b>	<b>7,760</b>	<b>22,048</b>	<b>--</b>
<b>Finding 3: Unallowable Indirect Costs</b>					
	3,815	--	2,071	5,886	--
	--	--	16,764	16,764	--
<b>Finding 3 Total</b>	<b>3,815</b>	<b>--</b>	<b>18,835</b>	<b>22,650</b>	<b>--</b>
<b>Finding 4: Unreasonable Legal Fees</b>					
	6,310	--	3,577	9,887	--
	6,850	--	2,165	9,015	--
<b>Finding 4 Total</b>	<b>13,160</b>	<b>--</b>	<b>5,742</b>	<b>18,902</b>	<b>--</b>
<b>Finding 5: Unallocable Retroactive Salary Adjustments</b>					
	3,821	2,038	3,173	9,032	--
<b>Finding 5 Total</b>	<b>3,821</b>	<b>2,038</b>	<b>3,173</b>	<b>9,032</b>	<b>--</b>
<b>Finding 6: Underspent Participant Support</b>					
	4,613	--	--	4,613	--
<b>Finding 6 Total</b>	<b>4,613</b>	<b>--</b>	<b>--</b>	<b>4,613</b>	<b>--</b>
<b>Total</b>	<b>\$ 81,389</b>	<b>\$ 23,176</b>	<b>\$ 67,239</b>	<b>\$ 171,804</b>	<b>\$ --</b>



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