

# Performance Audit of Incurred Costs – University of Houston

REPORT PREPARED BY COTTON & COMPANY LLP

NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL

July 23, 2020  
OIG 20-1-005





## AT A GLANCE

Performance Audit of Incurred Costs – University of Houston

Report No. OIG 20-1-005

July 23, 2020

### AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company LLP (C&C) to conduct a performance audit of incurred costs at the University of Houston (UH) for the period February 1, 2016, to January 31, 2019. The auditors tested approximately \$2.1 million of the more than \$45 million of costs claimed to NSF. The objective of the audit was to evaluate UH's award management environment to determine whether any further audit work was warranted, and to perform additional audit work, as determined appropriate. A full description of the audit's objective, scope, and methodology is attached to the report as Appendix C.

### AUDIT RESULTS

The report highlights concerns about UH's compliance with certain Federal and NSF regulations, NSF award terms and conditions, and UH policies. The auditors questioned \$133,305 of costs claimed by UH during the audit period. Specifically, the auditors found \$53,666 of expenses not appropriately allocated to NSF awards, \$37,577 of expressly unallowable expenses charged to NSF awards, \$19,445 of inappropriately applied indirect costs, \$10,956 of inappropriately procured goods and services, \$9,954 of inadequately supported expenses, and, \$1,707 of expenditures that did not comply with NSF award terms and conditions. The auditors also identified three compliance related findings for which there were no questioned costs; non-compliance with UH policies, incorrect application of proposed indirect cost rates, and specialized service facility rates not appropriately reviewed. C&C is responsible for the attached report and the conclusions expressed in this report. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

### RECOMMENDATIONS

The auditors included 9 findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure UH strengthens administrative and management controls.

### AUDITEE RESPONSE

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

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:** July 23, 2020

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

Jamie French  
Director  
Division of Grants and Agreements

**FROM:** Mark Bell  
Assistant Inspector General  
Office of Audits



**SUBJECT:** Audit Report No. 20-1-005, University of Houston

This memorandum transmits the Cotton & Company LLP (C&C) report for the audit of costs charged by the University of Houston (UH) to its sponsored agreements with the National Science Foundation during the period February 1, 2016, to January 31, 2019. The audit encompassed approximately \$2.1 million of the more than \$45 million claimed to NSF during the period. The objective of the audit was to evaluate UH's award management environment to determine whether any further audit work was warranted, and to perform additional audit work, as determined appropriate. A full description of the audit's objective, scope, and methodology is attached to the report as Appendix C.

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

**OIG Oversight of the Audit**

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

- reviewed C&C's approach and planning of the audit;

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

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

#### Attachment

cc:

Anneila Sargent  
John Veysey  
Ann Bushmiller  
Christina Sarris  
Fleming Crim  
Judy Chu

Teresa Grancorvitz  
Pamela Hawkins  
Alex Wynnyk  
Rochelle Ray  
Ellen Ochoa  
Victor McCrary

Carrie Davison  
Suzanne Abo  
Allison Lerner  
Lisa Vonder Haar  
Ken Chason  
Dan Buchtel

Ken Lish  
Billy McCain  
Jennifer Kendrick  
Louise Nelson  
Karen Scott

**UNIVERSITY OF HOUSTON**

**PERFORMANCE AUDIT OF INCURRED COSTS FOR  
NATIONAL SCIENCE FOUNDATION AWARDS FOR THE PERIOD  
FEBRUARY 1, 2016, THROUGH JANUARY 31, 2019**

**NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL**

**TABLE OF CONTENTS**

**I. BACKGROUND.....1**

**II. AUDIT RESULTS.....2**

FINDING 1: EXPENSES NOT APPROPRIATELY ALLOCATED TO NSF AWARDS .....2

FINDING 2: UNALLOWABLE EXPENSES .....8

FINDING 3: INDIRECT COSTS NOT APPROPRIATELY APPLIED .....14

FINDING 4: GOODS AND SERVICES NOT APPROPRIATELY PROCURED .....17

FINDING 5: EXPENSES NOT ADEQUATELY SUPPORTED .....20

FINDING 6: EXPENDITURES NOT COMPLIANT WITH NSF AWARD TERMS AND CONDITIONS .....22

FINDING 7: NON-COMPLIANCE WITH UH POLICIES .....24

FINDING 8: INCORRECT APPLICATION OF PROPOSED INDIRECT COST RATES .....28

FINDING 9: SPECIALIZED SERVICE FACILITY RATES NOT APPROPRIATELY REVIEWED .....30

**APPENDIX A: SCHEDULE OF QUESTIONED COSTS BY FINDING.....32**

**APPENDIX B: UNIVERSITY OF HOUSTON RESPONSE .....34**

**APPENDIX C: OBJECTIVES, SCOPE, AND METHODOLOGY.....41**

**NATIONAL SCIENCE FOUNDATION  
PERFORMANCE AUDIT OF INCURRED COSTS  
UNIVERSITY OF HOUSTON**

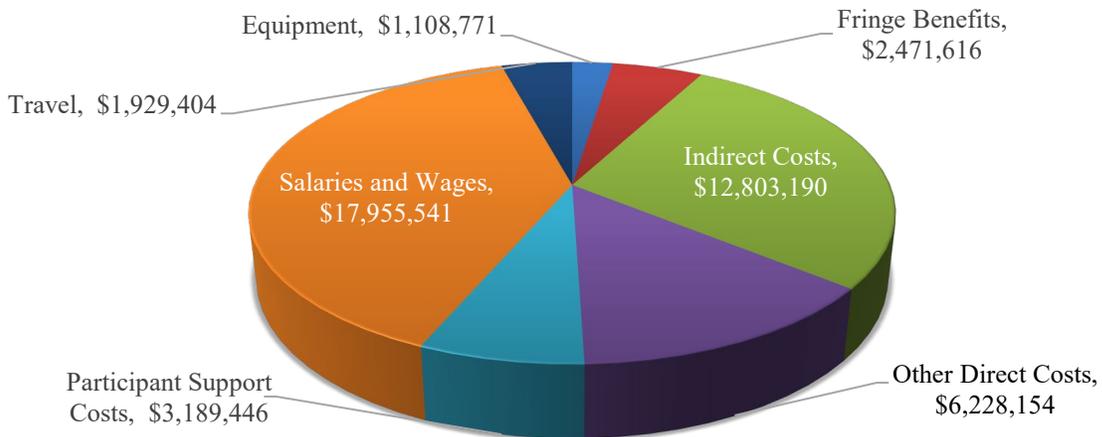
**I. BACKGROUND**

The National Science Foundation is an independent Federal agency whose mission is to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. Through grant awards, cooperative agreements, and contracts, NSF enters into relationships with non-Federal organizations to fund research and education initiatives and to assist in supporting its internal financial, administrative, and programmatic operations.

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

NSF OIG engaged Cotton & Company LLP (referred to as “we”) to conduct a performance audit of costs incurred by the University of Houston (UH). UH is a public research university that reported \$98 million in research awards from Federal sources in fiscal year 2019. As illustrated in Figure 1, UH’s general ledger (GL) supported more than \$45 million in expenses claimed on 297 NSF awards during our audit period of performance (POP) of February 1, 2016, to January 31, 2019. Figure 1 also shows costs claimed by budget category based on the accounting data that UH provided.

**Figure 1. Costs Claimed by NSF Budget Category, February 1, 2016, through January 31, 2019<sup>1</sup>**



*Source:* Auditor analysis of accounting data provided by UH.

<sup>1</sup> The total award-related expenses reported in UH’s GL exceeded the \$45,383,155 reported in NSF’s Award Cash Management System (ACM\$); however, because the GL data materially reconciled to NSF’s ACM\$ records, we determined that the GL data was appropriate for the purposes of this engagement.

This performance audit, conducted under Order No. 140D0418F0438, was designed to meet the objectives identified in the Objectives, Scope, and Methodology section of this report (Appendix C) and was conducted in accordance with *Generally Accepted Government Auditing Standards*, issued by the U.S. Government Accountability Office. We communicated the results of our audit and the related findings and recommendations to UH and NSF OIG. We included UH's response to this report in its entirety in Appendix B.

## II. AUDIT RESULTS

We tested 125 transactions which represented \$2,154,370<sup>2</sup> in costs that UH claimed during the audit period. Based on the results of our testing, we determined that UH needs improved oversight of the allocation and documentation of expenses charged to NSF awards to ensure that it is able to support that costs claimed are reasonable, allocable, and allowable in accordance with all Federal and NSF regulations, NSF award terms and conditions, and UH policies.

As a result, we identified and questioned \$133,305 of direct and indirect costs that UH inappropriately claimed during the audit period including:

- \$53,666 of expenses not appropriately allocated to NSF awards.
- \$37,577 of expressly unallowable expenses charged to NSF awards.
- \$19,445 of inappropriately applied indirect costs.
- \$10,956 of inappropriately procured goods and services.
- \$9,954 of inadequately supported expenses.
- \$1,707 of expenditures that did not comply with NSF award terms and conditions.

We also identified three compliance-related findings for which there were no questioned costs:

- Non-compliance with UH policies.
- Incorrect application of proposed indirect cost rates.
- Specialized service facility rates not appropriately reviewed.

We provide a breakdown of the questioned costs by finding in Appendix A of this report.

### **Finding 1: Expenses Not Appropriately Allocated to NSF Awards**

UH did not always allocate expenses to NSF awards based on the relative benefits the awards received, as required by Federal regulations<sup>3</sup> and NSF's *Proposal and Award Policies and*

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<sup>2</sup> The \$2,154,370 in claimed costs represents the total costs claimed for the 125 transactions selected for transaction-based testing; it does not represent the amount of the total costs reviewed during the audit.

<sup>3</sup> According to 2 Code of Federal Regulations (CFR) Part 220, Appendix A, Section C.4.a and 2 CFR §200.405(a), organizations should allocate costs to a particular cost objective in accordance with the relative benefits received.

*Procedures Guides* (PAPPGs).<sup>4</sup> As such, UH inappropriately allocated \$53,666 in expenses to eight NSF awards. Specifically:

### ***Inappropriately Allocated Other Direct Costs***

UH charged three NSF awards for \$23,151 in inappropriately allocated other direct costs. Specifically:

- In July 2016, UH charged the award for \$6,520 in costs incurred to purchase software licenses. The software appears to have been necessary to complete the grant objectives; however, because UH indicated that the software benefited two projects, UH should only have charged 50 percent of the license cost, or \$3,260, to this award.
- In October 2017, UH charged NSF Award No. [REDACTED] for \$7,641 in tuition remission expenses that it incurred to support a graduate student enrolled at UH. The Principal Investigator (PI) stated that this student's tuition was allocable to this award; however, the student did not allocate any effort to this award. In addition, UH did not mention the student in the annual reports submitted for this award, nor did it provide any additional documentation showing that the student contributed to the award. It therefore does not appear to have been appropriate for UH to allocate the student's tuition remission expenses to this award.
- In May 2018, UH charged NSF Award No. [REDACTED] for \$12,250 in costs incurred to pay a stipend for a graduate student visiting UH from [REDACTED] to participate in a training program. UH identified the student as a faculty advisee in the award proposal; however, the student did not certify any of his effort as allocable to the award.<sup>5</sup> In addition, UH did not identify the student in the annual report for this NSF award, and the Stipend Review and Approval Form that UH provided to support that the stipend was a "true and accurate" expense did not identify the award to which UH would charge the expense.
  - *In addition to this expense not being allocable to the award charged, UH inappropriately accounted for the expense as a participant support cost (PSC).*

### ***Purchases Near Grant Expiration***

UH inappropriately charged three NSF awards for \$19,012 in costs incurred to purchase materials near the award's expiration date. Specifically:

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<sup>4</sup> NSF PAPPGs 10-1 and 14-1, Part I, Chapter II, Section C.2.g. state that grantees should ensure that costs claimed under NSF grants are necessary, reasonable, allocable, and allowable under the applicable cost principles. PAPPGs 15-1 and 16-1, Part II, Chapter V, Section A, and 17-1 and 18-1, Part II, Chapter X, Section A state that grantees should ensure that all costs charged to NSF awards meet the requirements of the cost principles contained in 2 CFR §200, Subpart E; grant terms and conditions; and any other specific requirements of both the award notice and the applicable program solicitation.

<sup>5</sup> According to 2 CFR §200.405(a), organizations should allocate costs to a particular cost objective in accordance with the relative benefits received.

- In September 2016, UH charged NSF Award No. [REDACTED] for \$4,057 in costs incurred to replace a precision balance in the PI's lab. Although the PI used the balance to achieve the award objectives, because the PI purchased the balance to replace a general-purpose lab balance during the last month of the grant's 4-year POP, it was not reasonable for UH to allocate 100 percent of this expense to this award.
- In March 2017, 1 month after NSF Award No. [REDACTED] expired, UH transferred \$4,736 in travel costs that the PI and two graduate students incurred to travel to a conference from NSF Award No. [REDACTED] to NSF Award No. [REDACTED]. Although this trip did occur during the POP for NSF Award No. [REDACTED], because attendance at this conference appears to have directly benefited the original award charged, NSF Award No. [REDACTED],<sup>6</sup> it was not reasonable for UH to allocate 100 percent of these expenses to NSF Award No. [REDACTED].
  - *UH agreed to reimburse NSF for this expense.*
- During October and November 2017, UH charged NSF Award No. [REDACTED] for \$10,219 in costs incurred to purchase computer supplies such as network modems, cooling performance fans, and other computer parts and accessories. Because the computer supplies were available for less than 2 months of the grant's 3.25-year POP, it was not reasonable for UH to allocate 100 percent of these expenses to this award.
  - *UH agreed to reimburse NSF for this expense.*

***Inappropriately Allocated Travel Costs***

UH charged three NSF awards for \$11,503 in inappropriately allocated travel costs. Specifically:

- In October 2017, UH charged NSF Award No. [REDACTED] for \$2,920 in travel costs that graduate students incurred to perform experiments that benefited multiple projects. Because the PI's justification indicated that only \$1,164 of these travel costs were allocable to NSF Award No. [REDACTED], UH inappropriately allocated the remaining costs, or \$1,756, to this award.
  - *UH agreed to reimburse NSF for this expense.*
- In December 2017, UH processed a cost transfer to move \$4,802 in travel expenses that the PI<sup>7</sup> incurred to attend a [REDACTED] from NSF Award No. [REDACTED], [REDACTED], to NSF Award No. [REDACTED], [REDACTED]. Although the PI claimed that [REDACTED]

<sup>6</sup> The PI originally allocated 100 percent of these costs to NSF Award No. [REDACTED]. The PI attributed transferring these expenses to NSF Award No. [REDACTED] because attendance at the conference benefitted both awards; however, neither of the graduate students who attended the conference allocated effort to NSF Award No. [REDACTED]

<sup>7</sup> The traveler was the PI of both NSF Award No. [REDACTED] and NSF Award No. [REDACTED]

attendance at this meeting benefited NSF Award No. [REDACTED], because the workshop related to [REDACTED] the costs do not appear to be allocable to NSF Award No. [REDACTED].

- UH agreed to reimburse NSF for this expense.
- In June 2018, UH charged NSF Award No. [REDACTED] for \$4,945 in travel expenses, which represented 68 percent of the costs that the PI incurred to (a) travel to a symposium to disseminate grant-related research results, (b) visit a university to give a talk and conduct recruitment activities, and (c) present at a conference. Because the PI’s attendance at the symposium is the only aspect of this trip that solely benefited this award and because the PI did not document the methodology for allocating 68 percent of the trip expenses to this award,<sup>8</sup> these costs do not appear to have been reasonably charged to NSF Award No. [REDACTED].

UH does not have proper controls in place to ensure that it consistently allocates costs to sponsored awards based on the relative benefits that the awards receive. As a result, UH charged NSF awards for expenses that it should have allocated to alternative funding sources. We are therefore questioning \$53,666 of inappropriately allocated direct and indirect expenses. UH concurred with \$21,513 of the questioned costs but disagreed with the remaining \$32,153, as illustrated in Table 1.

**Table 1. Expenses Not Appropriately Allocated to NSF Awards**

Description	NSF Award No.	Fiscal Year	Questioned Costs			UH Agreed to Reimburse
			Direct	Indirect	Total	
July 2016 Software	[REDACTED]	2016	\$2,173	\$1,087	\$3,260	\$0
October 2017 Tuition Remission	[REDACTED]	2018	7,641	0	7,641	0
May 2018 Participant Stipend	[REDACTED]	2018	12,250	0	12,250	0
September 2016 Equipment	[REDACTED]	2017	2,705	1,352	4,057	0
March 2017 Conference	[REDACTED]	2017	3,147	1,589	4,736	4,736
October – November 2017 Materials	[REDACTED]	2018	6,790	3,429	10,219	10,219
October 2017 Travel	[REDACTED]	2018	1,167	589	1,756	1,756
December 2017 Workshop	[REDACTED]	2018	3,191	1,611	4,802	4,802
June 2018 Symposium	[REDACTED]	2018	3,286	1,659	4,945	0
	<b>Total</b>		<b><u>\$42,350</u></b>	<b><u>\$11,316</u></b>	<b><u>\$53,666</u></b>	<b><u>\$21,513</u></b>

Source: Auditor summary of questioned transactions.

**Recommendations**

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

<sup>8</sup> According to 2 CFR §200.405(d), if a cost benefits two or more projects, the grantee may allocate or transfer the costs to the benefited projects using any reasonable, documented basis.

1. Resolve the \$32,153 in questioned unallocable software, tuition remission, stipend, supply, and travel costs for which UH has not agreed to reimburse NSF and direct UH to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UH to provide documentation that it has repaid or otherwise credited the \$21,513 in questioned conference, travel, and workshop costs for which it has agreed to reimburse NSF.
3. Direct UH to strengthen its administrative and management controls and processes for allocating expenses to sponsored projects. Processes could include:
  - a. Implementing additional procedures requiring the Office of Contracts and Grants to review and approve all non-salary expenses charged to NSF awards within 90 days of the award's expiration date.
  - b. Requiring PIs or other designated staff to both document and justify the allocation methodologies they use to charge expenses to sponsored projects.
  - c. Establishing a procedure stating that, once students have submitted their effort certifications, personnel must re-examine all student tuition and travel expenses posted during the effort reporting period to ensure that the students' tuition and travel expenses are appropriately allocated to awards in a manner that is consistent with the students' actual effort.
4. Direct UH to encourage PIs to identify all award participants and report all award-related travel in the annual reports submitted to NSF.

**University of Houston Response:** UH agreed with the questioned costs related to inappropriately allocated conference, travel, materials, and workshop costs incurred under NSF Award Nos. [REDACTED], [REDACTED], and [REDACTED]. However, UH disagreed with the remaining questioned costs related to software licenses, tuition remission, participant stipends, supplies, and travel costs. Specifically:

- With regard to the \$3,260 in questioned software costs charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allocable to this award, both because the grant budget included funding to support the purchase of software and because the PI did not contemplate using the software in other projects at the time of the purchase.
- With regard to the \$7,641 in questioned tuition remission charged to NSF Award No. [REDACTED] UH stated that it believes the tuition remission form it provided to support this charge demonstrates that the costs should be allocable to this award, as both the student and the PI signed the form and the form includes the PI's certification that the student's activities were necessary to achieve the award objectives.

- Although UH agreed that it used the incorrect account code when charging the \$12,250 in questioned participant stipends to NSF Award No. [REDACTED] UH stated that it believes the costs should be allocable to this award. UH further noted that the amount paid was correct for the 7-month timeline included in the scope of our testing.
- With regard to the \$4,057 in questioned supplies charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allocable to this award, both because the balance was necessary to achieve the award objectives and because the PI did not contemplate using the precision balance for other projects at the time of the purchase.
- With regard to the \$4,945 in questioned travel costs charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allocable to this award because the PI spent 5 of the 7 travel days attending and presenting at the same grant-related symposium/conference.

UH stated that it has controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, as well as to ensure that it consistently allocates costs to sponsored awards based on the relative benefits received. However, UH noted that it will update its system-generated report reminders to direct PIs to identify all award participants and award-related travel.

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

- With regard to the \$3,260 in questioned software costs charged to NSF Award No. [REDACTED] the documentation that UH provided during the audit indicated that even though two projects had benefited from the software purchase, UH had allocated 100 percent of the software costs to NSF Award No. [REDACTED] as a cost-saving measure. Specifically, UH noted that “[a]n allocation of the cost to the new award would have decreased the amount of funding that would otherwise be available to meet upcoming project expenses. While [allocating] 100% to the closing award benefitted both awards by securing its use in the old project while ensuring that it will be available for use at no additional cost to the ongoing project.” Further, UH stated that during the final year of this award, “the PI proposed and won another NSF award to continue the research in this area. The software served both granting periods.” As UH did not allocate the software costs in accordance with the relative benefits received, our position regarding this finding has not changed.
- With regard to the \$7,641 in questioned tuition remission charged to NSF Award No. [REDACTED] the tuition remission form that UH provided did include a certification of the student’s effort by the PI; however, the form did not specify the award(s) to which the certification applied. Accordingly, our position regarding this finding has not changed.
- With regard to the \$12,250 in questioned participant stipends charged to NSF Award No. [REDACTED] because UH’s formal response did not include a justification as to why it believed the stipend costs were allocable to this award, our position regarding this finding

has not changed. However, we did note that the UH had appropriately calculated the stipend payment and therefore removed that reference from the finding.

- With regard to the \$4,057 in questioned supplies charged to NSF Award No. [REDACTED] because the balance was only available for 1 month, or 2 percent of the award's POP, and because the PI used the balance to benefit other projects for the majority of its useful life, our position regarding this finding has not changed.
- With regard to the \$4,945 in questioned travel costs charged to NSF Award No. [REDACTED] the documentation that UH provided to support these costs indicated that the PI did not spend 5 days at a single conference, but rather, that the PI attended two separate conferences during those 5 days, a grant related conference in [REDACTED] and a non-grant related conference in [REDACTED]. Further, the documentation that UH provided does not support how the PI determined that 68 percent of his travel expenses were allocable to the award. Accordingly, our position regarding this finding has not changed.

## **Finding 2: Unallowable Expenses**

During the audit period, UH charged 11 NSF awards for \$37,577 in expenses that were expressly unallowable under Federal regulations, NSF policies and procedures, and/or UH policies. Specifically:

### ***Unallowable Other Direct Costs***

UH charged four NSF awards for \$17,682 in other unallowable expenses. Specifically:

- In April 2016, UH charged NSF Award No. [REDACTED] for \$11,431 in unallowable expenses incurred to purchase LEGO sets 7 days after the NSF award's POP expired.<sup>9</sup>
- In July 2016, UH charged NSF Award No. [REDACTED] for \$453 in unallowable currency conversion expenses incurred because UH did not pay an invoice in a timely manner.
  - UH responded to our request for documentation to support a \$6,973 charge by providing an invoice dated March 2016 that supported \$6,520 of this amount. Although UH did subsequently provide an additional invoice that supported the full \$6,973, UH stated that the increase in costs occurred because the exchange rate became less favorable between the date of the original invoice and the date the vendor received the payment, after UH's original check was lost in the mail.
- In August 2017, UH charged NSF Award No. [REDACTED] for \$1,396 in fringe benefits that UH had inappropriately assessed on participant stipends paid to three seventh-grade

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<sup>9</sup> According to NSF PAPPG 09-29, Part II, Chapter V, Section A.2.c, grantees may not expend NSF funds subsequent to the expiration date of the grant except to liquidate valid commitments that were made on or before the expiration date.

science teachers who were not UH employees and therefore were not eligible for fringe benefits.<sup>10</sup>

- *UH agreed to reimburse NSF for this expense.*
- In August 2018, UH charged NSF Award No. [REDACTED] for \$4,402 in costs that the PI incurred to purchase the copyrights for multiple articles. The PI purchased these copyrights in order to include the articles in a textbook that the PI intended to sell for profit after the award expired. Although the published textbook did acknowledge the NSF award as a sponsor, because the publication of this book was not necessary for the PI to achieve the award objectives, costs incurred to purchase the copyrights to research articles that were not sponsored by this award do not appear to have been reasonable or allowable on this award.<sup>11</sup>

### ***Unallowable Participant Support Costs***

UH charged three NSF awards for \$13,412 in PSCs used to cover non-participant expenses and expenses that did not support the awards charged.<sup>12</sup> Specifically:

- In June 2017, UH charged NSF Award No. [REDACTED] for \$10,085, which represented 49 percent of the costs invoiced by the [REDACTED] for hosting the [REDACTED] Summer School [REDACTED] from [REDACTED], 2017, in [REDACTED]. The purpose of NSF Award No. [REDACTED] was to host the [REDACTED] from July [REDACTED] through [REDACTED] 2013, in [REDACTED]. Although the PI stated that he received the NSF Program Officer's approval to use funds remaining on NSF Award No. [REDACTED] to pay expenses related to the [REDACTED] conference, the PI did not request or receive formal approval to re-budget the PSCs through the no-cost extension requests that [REDACTED] submitted to NSF for this award. Further, UH did not provide any documentation to support that the PI had received the Program Officer's approval.<sup>13</sup>
  - *In addition, the PI received separate funding to support the [REDACTED] summer school programs under NSF Award No. [REDACTED]*
  - *UH agreed to reimburse NSF for this expense.*

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<sup>10</sup> UH's Negotiated Indirect Cost Rate Agreements (NICRAs) state that UH identifies fringe benefits for each employee and charges the fringe benefits individually as direct costs.

<sup>11</sup> According to 2 CFR §200.403(a), for costs to be allowable, they must be necessary and reasonable for the performance of the Federal award.

<sup>12</sup> According to 2 CFR 220, Appendix A, Section C.2 and 2 CFR §200.403(a), for costs to be allowable, they must be necessary and reasonable for the performance of the Federal award.

<sup>13</sup> According to NSF PAPPG 13-1, Part II, Chapter V, Section B.8.a (ii), grantees may not use funds provided for participant support to cover other categories of expenses without first obtaining the specific approval of the cognizant NSF program officer. NSF PAPPG 17-1, Part II, Chapter X, Section A.3.b states that written prior approval from the cognizant NSF program officer is required for reallocation of funds provided for PSCs.

- In June 2018, UH hosted a conference related to NSF Award No. [REDACTED] and used \$1,501 of PSC funding to cover meals for three UH employees,<sup>14</sup> as well as for one individual who did not attend the conference.
- In August 2018, UH used \$1,826 of PSC funding awarded under NSF Award No. [REDACTED] to cover unallowable PSCs. NSF Award No. [REDACTED] included funding to enable UH to host a [REDACTED] conference; however, UH charged the award for PSCs related to \$578 in airfare costs for a participant who did not attend the conference, as well as \$1,248 in travel expenses that the PI incurred to attend a conference at the University [REDACTED].
  - *UH agreed to reimburse NSF for this expense.*

### ***Unallowable Travel Expenses***

UH charged four NSF awards for \$6,483 in unallowable travel expenses.<sup>15</sup> Specifically:

- In September 2017, UH charged NSF Award No. [REDACTED] for \$2,195 in unallowable airfare and parking costs, including \$2,066 for airfare that did not comply with the *Fly America Act*<sup>16</sup> and \$129 for parking expenses incurred for personal travel.
  - *UH agreed to reimburse NSF for this expense.*
- In September 2017, UH charged NSF Award No. [REDACTED] for \$150 in unallowable lodging expenses incurred for a participant’s early departure and a fee labeled “Misc Revenue.”
  - *UH agreed to reimburse NSF for this expense.*
- In May 2018, UH charged NSF Award No. [REDACTED] for \$673 in unallowable lodging expenses because the PI incorrectly submitted a 1,734 [REDACTED] hotel receipt for

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<sup>14</sup> According to 2 CFR §200.75 and NSF 17-1, PSCs refer to direct costs for items such as stipends or subsistence allowances, travel allowances, and registration fees that the grantee paid to or on behalf of participants or trainees (but not employees) in connection with conferences or training projects.

<sup>15</sup> According to 2 CFR §200.474 (a), travel costs are expenses for transportation, lodging, subsistence, and related items incurred by employees who are in travel status on official business of the non-Federal entity. Further, it states that costs of lodging, other subsistence, and incidental expenses are considered reasonable and allowable only to the extent that such costs do not exceed charges normally allowed by the non-Federal entity in its regular operations as the result of the non-Federal entity’s written travel policy.

<sup>16</sup> NSF PAPPG 16-1, Part II, Chapter VI, Section F.1.b (i) states: “In accordance with the Fly America Act (49 USC 40118), any air transportation to, from, between, or within a country other than the U.S. of persons or property, the expense of which will be assisted by NSF funding, must be performed by or under a code-sharing arrangement with a U.S.-flag air carrier if service provided by such a carrier is available (see Comptroller General Decision B-240956, dated September 25, 1991).” In addition, UH’s Division of Research travel policy states that the Fly America Act requires personnel to use U.S. flag carriers when engaging in foreign air travel funded with Federal funds.

reimbursement without converting the receipt to U.S. dollars or indicating that the receipt was not in U.S. dollars.<sup>17</sup>

- UH agreed to reimburse NSF for this expense.
- In July 2018, UH charged NSF Award No. [REDACTED] for \$3,465 in unallowable airfare expenses incurred because the PI combined business and personal travel. Although UH stated that it did not require the PI to document a travel comparison because it did not believe the PI’s choice of flights constituted personal travel,<sup>18</sup> because the PI elected to travel to and return from [REDACTED] rather than [REDACTED] where the grant-related conference was held, UH should have maintained documentation to support that the changes in travel location did not increase the total airfare expenses above the expenses that UH would have incurred if the PI had only performed grant-related travel.<sup>19</sup>
  - UH agreed to reimburse NSF for this expense.

UH does not have sufficient policies and procedures in place to ensure that it only charges allowable expenses to NSF awards. As a result, UH charged NSF awards for expenses that were expressly unallowable under Federal, NSF, and/or UH-specific regulations/policies. We are therefore questioning \$37,577 of unallowable expenses. UH concurred with \$19,790 of the questioned costs but disagreed with the remaining \$17,787, as illustrated in Table 2.

**Table 2. Unallowable Expenses**

Description	NSF Award No.	Fiscal Year	Questioned Costs			UH Agreed to Reimburse
			Direct	Indirect	Total	
April 2016 Supplies	[REDACTED]	2016	\$11,431	\$0	\$11,431	\$0
July 2016 Conversion Costs	[REDACTED]	2016	302	151	453	0
August 2017 Fringe	[REDACTED]	2017	1,396	0	1,396	1,396
August 2018 Copyright Costs	[REDACTED]	2018	2,925	1,477	4,402	0
June 2017 Conference	[REDACTED]	2017	10,085	0	10,085	10,085
June 2018 Conference	[REDACTED]	2018	1,501	0	1,501	0
August 2018 Conference	[REDACTED]	2018	1,826	0	1,826	1,826
September 2017 Airfare and Parking	[REDACTED]	2018	1,458	737	2,195	2,195

<sup>17</sup> Based on the conversion rate applicable at the time the PI incurred the expense (i.e., [REDACTED] to 1 U.S. dollar (USD)), only \$1,277.25 in direct lodging was allowable on this award. We calculated this amount as follows: \$1,724.30 - \$1,277.25 (\$1,724.30/1.35 to convert [REDACTED] to USD) = \$447.05 \* 1.505 (indirect cost multiplier) = \$672.81.

<sup>18</sup> UH stated that because the PI’s choice of travel location related to [REDACTED] responsibilities to both attend the grant-related conference and [REDACTED], it considered the personal component of the travel to [REDACTED] where the PI’s [REDACTED], to be “entirely for business” under the Internal Revenue Service’s “No Substantial Control” policy.

<sup>19</sup> UH Manual of Administrative Policies and Procedures, 04.02.01B states: “If the traveler’s actual airfare includes a personal destination, the traveler must provide a lowest priced airfare quote that only includes business destinations. The traveler will be reimbursed the lesser of the actual airfare, which includes the personal destination, and the quote, which only includes business destinations.”

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	UH Agreed to Reimburse
September 2017 Lodging		2018	150	0	150	150
May 2018 Lodging		2018	447	226	673	673
July 2018 Airfare		2018	<u>2,265</u>	<u>1,200</u>	<u>3,465</u>	<u>3,465</u>
<b>Total</b>			<b><u>\$33,786</u></b>	<b><u>\$3,791</u></b>	<b><u>\$37,577</u></b>	<b><u>\$19,790</u></b>

Source: Auditor summary of questioned transactions.

### ***Recommendations***

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

1. Resolve the \$17,787 in questioned conference, supply, currency conversion, and publication expenses for which UH has not agreed to reimburse NSF and direct UH to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UH to provide documentation that it has repaid or otherwise credited the \$19,790 in questioned fringe, conference, airfare, parking, and lodging costs for which it has agreed to reimburse NSF.
3. Direct UH to strengthen its policies and procedures related to the creation and retention of documentation, including introducing additional controls to help ensure that UH appropriately creates and maintains all documentation necessary to support the allowability of expenses charged to sponsored programs.
4. Direct UH to strengthen its administrative and management processes and procedures surrounding the approval of travel expense reports. Updated procedures could include:
  - a. Conducting annual training for individuals responsible for reviewing and approving expense reports within each department.
  - b. Establishing clear guidance regarding the allowability of no-show and early departure lodging expenses that do not benefit the project(s) charged.
  - c. Developing a policy that provides guidance as to how employees who are combining business and personal travel should document that the combined travel did not increase the travel expenses above the expenses that UH would have incurred if the employee had only performed business-related travel.
5. Direct UH to strengthen its administrative and management procedures surrounding expenses charged to NSF awards after the award has expired. Updated procedures could include requiring the Office of Contracts and Grants to approve all expenses posted to expired NSF awards before UH can bill the costs to NSF.

6. Direct UH to strengthen its administrative and management procedures surrounding the processing of invoices to ensure that it pays all invoices in a timely manner.
7. Direct UH to ensure that it only applies fringe benefits based on eligible employee salary costs, as outlined in its Negotiated Indirect Cost Rate Agreement.
8. Direct UH to establish clear guidance regarding the allowability of publication expenses.
9. Direct UH to establish clear guidance regarding the allowability of participant expenses. This guidance should address:
  - a. When UH is required to request approval to re-budget participant support cost funding, as well as how to request and document the approval.
  - b. When UH may use participant support costs to provide meals or refreshments during a conference and how to segregate and account for unallowable participant support costs, such as costs associated with employee meals, alcohol, and entertainment.
  - c. The type of documentation that departmental personnel must maintain to support the allowability of participant stipend payments.

**University of Houston Response:** UH agreed with the questioned fringe benefits, costs related to the June 2017 and August 2018 conferences, and travel expenses. However, UH disagreed with the remaining questioned costs related to supplies, software licenses, publication, and the June 2018 conference. Specifically:

- With regard to the \$11,431 in questioned supply costs charged to NSF Award No. [REDACTED] UH noted that the purchase and invoice were both late due to administrative delays but stated that it believes the costs should be allowable because it received prior approval from NSF to use funding available at the end of the award to purchase the LEGO sets.
- With regard to the \$453 in questioned currency conversion costs charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allowable because the total amount paid represented the amount owed to the vendor based on the currency rate available when it reissued the 4000 Euro payment.
- With regard to the \$4,402 in questioned publication costs charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allowable because the PI published the textbook to disseminate the knowledge [REDACTED] gained from the research under this award. Specifically, UH noted that the book is listed as copyrightable material in the progress report that the PI submitted for this grant and cited NSF Grant Policy Manual 02-151, Section 732, *Copyright*, which states that NSF normally will not restrict, or take any part of the income earned from, copyrightable material.

- With regard to the \$1,501 in questioned costs related to the June 2018 conference that UH charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allowable because NSF policies allow local participants to participate in conference meals and coffee breaks.

UH stated that it has strong controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, as well as to ensure that costs are allowable in accordance with Federal and sponsor regulations and University policy. However, UH noted that it will evaluate and improve its current procedures and will provide annual training in the areas identified.

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

- With regard to the \$11,431 in questioned supply costs charged to NSF Award No. [REDACTED] because UH did not make the purchase within the NSF award's effective POP, these costs are expressly unallowable under Federal regulations. Accordingly, our position regarding this finding has not changed.
- With regard to the \$453 in questioned currency conversion costs charged to NSF Award No. [REDACTED] because UH only incurred the costs as a result of administrative delays, the additional expenses are not allowable on this award. Accordingly, our position regarding this finding has not changed.
- With regard to the \$4,402 in questioned publication costs charged to NSF Award No. [REDACTED] NSF Grant Policy Manual 02-151, Section 732, *Copyright*, relates to costs incurred to publish copyrighted material produced as a result of NSF award research. Because the PI incurred these costs to purchase the copyrights to articles related to non-grant-sponsored research, and because the PI was not required to publish a book to achieve the award objectives, our conclusion regarding this finding has not changed.
- With regard to the \$1,501 in questioned costs related to the June 2018 conference that UH charged to NSF Award No. [REDACTED] the questioned costs did not relate to "participants" as defined by Federal regulations and NSF policies, because the meals were provided to UH employees. Accordingly, our position regarding this finding has not changed.

### **Finding 3: Indirect Costs Not Appropriately Applied**

UH inappropriately applied indirect costs to expenses that it should not have accounted for as Modified Total Direct Costs, or costs to which UH can apply its indirect cost rates, per Federal guidance or UH's NICRAs.<sup>20</sup> As a result, UH charged three NSF awards for \$19,445 in indirect

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<sup>20</sup> According to 2 CFR Part 220, Appendix A, Section G.2; 2 CFR §200.68; and UH's NICRAs published from August 24, 2011, through August 31, 2021, equipment, tuition remission, PSCs, and subaward costs exceeding \$25,000 should be excluded from the indirect cost base.

costs inappropriately assessed on participant support, equipment, and tuition remission expenses. Specifically:

### ***Indirect Costs Inappropriately Applied to PSC Expenses***

UH charged one NSF award for \$8,334 in indirect costs inappropriately applied to PSCs.<sup>21</sup> Specifically:

- In June 2016, UH charged NSF Award No. [REDACTED] for \$8,334 in indirect costs assessed on direct costs incurred to purchase airfare to allow participants to travel to [REDACTED]. The travel expenses appear to be allocable to this award; however, because the PI used PSC funding to pay the expenses, UH should not have applied indirect costs to the expenses.
  - *UH agreed to reimburse NSF for these expenses.*

### ***Indirect Costs Inappropriately Applied to Equipment Expenses***

UH charged one NSF award for \$7,554 in inappropriately assessed indirect costs related to equipment.<sup>22</sup> Specifically:

- In February 2016, UH charged NSF Award No. [REDACTED] for \$6,060 in indirect costs assessed on direct costs incurred for a contractor to install and configure equipment. UH generally includes this type of direct cost in the capitalized acquisition cost for the equipment; however, UH charged these costs to the wrong account code. As a result, UH inappropriately applied indirect costs to these expenses.
  - *UH agreed to reimburse NSF for these expenses.*
- In October 2016, UH charged NSF Award No. [REDACTED] for \$1,494 in indirect costs assessed on direct costs incurred to purchase materials used to construct, operate, and support an internet connection between UH and [REDACTED] University, consistent with the grant's objectives. Although the value of the individual materials purchased was less than \$5,000, because UH purchased the materials "for last minute touches to the equipment to ensure that it continued to perform as it should," UH should have capitalized these costs.
  - *UH agreed to reimburse NSF for these expenses.*

### ***Indirect Costs Inappropriately Applied to Tuition Remission Expenses***

UH charged one NSF award for \$3,557 in inappropriately assessed indirect costs related to tuition remission. Specifically:

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<sup>21</sup> In addition to the Federal guidance previously cited, NSF PAPPG 15-1, Part I, Chapter II, Section C.2.g (v) states that indirect costs (F&A) are generally not allowed on PSCs.

<sup>22</sup> According to 2 CFR 220, Appendix A, Section J.18, the acquisition cost of an item includes the cost of any modifications, attachments, accessories, or auxiliary apparatus necessary to make the item usable for the purpose for which the entity acquired it.

- Between October and November 2016, UH charged NSF Award No. [REDACTED] for \$3,557 in indirect costs assessed on direct costs incurred for tuition remission expenses for a UH graduate student. Although UH generally charges tuition remission expenses to an account that does not apply indirect costs, it inadvertently charged the tuition remission costs to the wrong account code and, as a result, inappropriately applied indirect costs to these expenses.
  - UH agreed to reimburse NSF for these expenses.

UH does not have sufficient policies and procedures in place to ensure that it appropriately accumulates all participant support, equipment, and tuition remission expenses within account codes that do not apply indirect costs. Further, UH does not appropriately capitalize modifications performed to ensure that equipment functions appropriately. As a result, we are questioning \$19,445 of inappropriately applied indirect costs. UH concurred with the full \$19,445 in questioned costs, as illustrated in Table 3.

**Table 3. Indirect Costs Not Appropriately Applied**

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	UH Agreed to Reimburse
June 2016 PSC	[REDACTED]	2016	\$0	\$8,334	\$8,334	\$8,334
February 2016 Equipment	[REDACTED]	2016	0	6,060	6,060	6,060
October 2016 Equipment	[REDACTED]	2017	0	1,494	1,494	1,494
October – November 2016 Tuition	[REDACTED]	2017	<u>0</u>	<u>3,557</u>	<u>3,557</u>	<u>3,557</u>
<b>Total</b>			<b><u>\$0</u></b>	<b><u>\$19,445</u></b>	<b><u>\$19,445</u></b>	<b><u>\$19,445</u></b>

Source: Auditor summary of identified instances of non-compliance.

**Recommendation**

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

1. Direct UH to provide documentation that it has repaid or otherwise credited the \$19,445 in questioned indirect costs for which it has agreed to reimburse NSF.
2. Direct UH to strengthen its administrative and management procedures for applying indirect costs to Federal awards. Processes could include:
  - a. Implementing an annual review process for costs charged to awards that include funding for participant support and tuition remission to ensure that UH is appropriately segregating participant support costs and tuition remission costs in accounts that UH has excluded from its Modified Total Direct Cost base.
  - b. Requiring that personnel manually review material and supply purchases to evaluate whether UH should account for the items as equipment. Specifically, UH

should consider whether the items purchased have a useful life that exceeds 1 year and a value that exceeds \$5,000, or if the items are necessary for the use of an asset that meets those criteria.

**University of Houston Response:** UH agreed with this finding and the associated questioned costs. UH stated that it has implemented strong controls to ensure that it appropriately accounts for PSCs, tuition remission costs, and equipment costs, but noted that it will assess and improve its current procedures and will provide annual training in this area, as needed.

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

#### **Finding 4: Goods and Services Not Appropriately Procured**

UH charged six NSF awards for \$129,629 in goods and services that UH did not appropriately procure, including \$10,956 of unallowable expenses. Specifically:

##### ***Goods and Services Not Competitively Bid***

UH charged two NSF awards for \$10,956 in costs invoiced by vendors that UH had not appropriately selected through competitive bidding activities, as required by UH policies.<sup>23</sup> Because UH did not conduct the procurement actions in a manner that enabled open and free competition, we were unable to verify that UH had appropriately procured the vendors selected to provide goods and services charged to NSF awards in accordance with Federal policies.<sup>24</sup> Specifically:

- In March 2016, UH purchased \$4,274 in Apple computer products and charged \$3,306 of this amount to NSF Award No. [REDACTED]. However, UH did not obtain the three informal quotes required to support the allowability of purchases that exceed \$3,000.
  - *UH agreed to reimburse NSF for these expenses.*
- In October 2018, UH charged NSF Award No. [REDACTED] for \$7,650 in costs incurred to pay a consultant to provide grant-related services. However, UH did not perform competitive bidding activities or complete a sole-source justification form before obtaining these services.

##### ***Sole-Source Approvals Not Appropriately Completed***

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<sup>23</sup> UH Manual of Administrative Policies and Procedures, 04.01.01 states that for all purchases exceeding \$3,000 in Federal funds or \$5,000 in non-Federal funds, personnel must attach documentation to the purchase order that substantiates (a) the basis for contractor selection; (b) justification for lack of competition when UH did not obtain competitive bids or offers; and (c) the basis for the award cost or price. Specifically, the policy notes that purchasing will obtain a minimum of three informal bids to document the goods or services were competitively bid.

<sup>24</sup> According to 2 CFR § 215.43 and 2 CFR § 200.319(a), all procurement transactions must be conducted in a manner providing full and open competition.

UH charged three NSF awards for \$113,620 in goods and services that UH appears to have appropriately sole-sourced but for which UH did not appropriately complete sole-source justification forms before procuring the goods and services.<sup>25</sup> Because these costs appear to be reasonable and allocable to this award, we are not questioning any costs associated with these exceptions. Specifically:

- In August 2018, UH charged NSF Award No. [REDACTED] for \$12,976 in consultant costs paid to an independent contractor. UH stated that it used the Recommendation for Award form as its basis for selecting the contractor and choosing not to obtain competitive bids; however, it should have completed a sole-source justification form.
  - *UH agreed with this finding.*
- In September 2018, UH charged NSF Award No. [REDACTED] for \$3,000 in consultant costs paid to an independent contractor. UH stated that it used the Recommendation for Award form as its basis for selecting the contractor and choosing not to obtain competitive bids; however, it should have completed a sole-source justification form.
  - *UH agreed with this finding.*
- In October 2018, UH charged NSF Award No. [REDACTED] for \$97,644 in consultant costs paid to an independent contractor. UH stated that it used the Recommendation for Award form as its basis for selecting the contractor and choosing not to obtain competitive bids; however, it should have completed a sole-source justification form.
  - *UH agreed with this finding.*

### ***Purchase Order Not Completed***

UH charged one NSF award for \$5,053 in costs incurred to repair equipment without appropriately completing a purchase order for the expense, as required by UH policy.<sup>26</sup> Because this cost appears to be reasonable and allocable to this award, we are not questioning any costs

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<sup>25</sup> *UH Manual of Administrative Policies and Procedures*, 04.04.01A states that if only one vendor can provide the good or service needed and competition is not possible, the originating unit must complete a sole-source justification form and send it to Purchasing for approval, and that, if the Purchasing Department approves the form, the originating unit can issue a contract to the vendor without competition.

<sup>26</sup> *UH Manual of Administrative Policies and Procedures*, 04.01.01, 7. states that UH must support purchases exceeding \$3,500 in Federal funds with a purchase order that substantiates (a) the basis for contractor selection, (b) justification for lack of competition when UH does not obtain competitive bids or offers, and (c) the basis for the award cost or price.

associated with this exception. Specifically:

- In June 2017, UH charged NSF Award No. [REDACTED] for \$5,053 in costs incurred to repair camera equipment. The expense appears to be allocable to this award; however, UH did not create a purchase order for this expense, as is required for all purchases that exceed \$3,000.
  - UH agreed with this finding.

UH does not have proper controls in place to ensure that it appropriately procures goods and services. As a result, UH charged NSF awards for goods and services that it did not appropriately procure. We are therefore questioning \$10,956 in goods and services provided by vendors that UH did not appropriately select based on competitive bidding processes. UH concurred with \$3,306 of the questioned costs but disagreed with the remaining \$7,650, as illustrated in Table 4.

**Table 4. Goods and Services Not Appropriately Procured**

Description	NSF Award No.	Fiscal Year	Questioned Costs			UH Agreed to Reimburse
			Direct	Indirect	Total	
March 2016 Equipment	[REDACTED]	2016	\$2,976	\$330	\$3,306	\$3,306
October 2018 Consultant	[REDACTED]	2019	5,000	2,650	7,650	0
August 2018 Consultant	[REDACTED]	2018	0	0	0	0
September 2018 Consultant	[REDACTED]	2019	0	0	0	0
October 2018 Consultant	[REDACTED]	2019	0	0	0	0
June 2017 Equipment	[REDACTED]	2017	0	0	0	0
		<b>Total</b>	<b><u>\$7,976</u></b>	<b><u>\$2,980</u></b>	<b><u>\$10,956</u></b>	<b><u>\$3,306</u></b>

Source: Auditor summary of questioned transactions.

**Recommendation**

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

1. Resolve the \$7,650 in questioned inappropriately procured goods and services for which UH has not agreed to reimburse NSF and direct UH to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct UH to provide documentation that it has repaid or otherwise credited the \$3,306 of questioned costs that it has agreed to reimburse.
3. Direct UH to strengthen its administrative and management controls and processes for procuring goods and services that it will charge to NSF awards. Processes could include:
  - a. Implementing a control that prevents a vendor from being paid more than \$3,000 unless UH has competitive bidding documents and/or a sole-source justification form in place.

- b. Providing annual training to PIs and other departmental personnel responsible for performing purchasing activities. This training should outline the requirements for competitive bidding processes that buyers must perform before procuring services or equipment.
- c. Issuing specific guidance regarding whether a “Recommendation for Award” form can be used in lieu of a sole-source justification form.

**University of Houston Response:** With the exception of the questioned consultant costs charged to NSF Award No. [REDACTED] UH agreed that it did not appropriately procure the goods and services identified in this finding. Specifically:

- With regard to the \$7,650 in questioned consultant costs charged to NSF Award No. [REDACTED] UH stated that it believes the costs should be allowable because a sole-source justification form was attached to the purchase order, indicating that the PI must have completed the form before making the purchase.

UH confirmed that it uses the approved proposal as support for its sole-source justifications when the proposal includes a contractor and a Statement of Work but noted that it will update its policy to require personnel to use both the Recommendation for Award form and the sole-source justification for all procurements that exceed the allowable threshold, when applicable.

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

- With regard to the \$7,650 in questioned consultant costs charged to NSF Award No. [REDACTED] the PI did not complete the form before the services commenced. The lack of contemporaneous documentation to support that the sole-source award was appropriate restricts both UH’s and the auditor’s ability to evaluate whether the costs were reasonable and whether the services were available from other sources at lower costs.

### **Finding 5: Expenses Not Adequately Supported**

UH did not provide adequate documentation to support the allocability, allowability, and reasonableness of \$9,954 in expenses charged to one NSF award during the audit period.<sup>27</sup> Specifically:

- In October 2016, UH charged NSF Award No. [REDACTED] for \$9,954 in transportation expenses and other direct costs for which UH did not provide sufficient documentation to support. Specifically, UH provided an itemized list of expenses that the PI charged to the award related to research performed in [REDACTED]; however, it did not provide sufficient

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<sup>27</sup> According to NSF PAPPG 16-1, Part II, Chapter V, Section A, grantees should ensure that all costs charged to NSF awards meet the requirements of the cost principles contained in 2 CFR §200, which states that costs must be adequately documented and necessary for the performance of the Federal award to be allowable (see §200.403).

documentation, such as itemized receipts, to support the costs that the PI claimed for reimbursement.

- UH agreed to reimburse NSF for these expenses.

UH does not have sufficient policies and procedures in place to ensure that travelers adequately document all expenses incurred while performing research in remote areas. As a result, we were unable to verify that all of UH’s sampled costs were allowable under the NSF award charged. We are therefore questioning \$9,954 of unsupported costs charged to NSF. UH concurred with the full \$9,954 in questioned costs, as illustrated in Table 5.

**Table 5. Expenses Not Adequately Supported**

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	UH Agreed to Reimburse
October 2016 Travel		2017	\$6,614	\$3,340	\$9,954	\$9,954
<b>Total</b>			<u>\$6,614</u>	<u>\$3,340</u>	<u>\$9,954</u>	<u>\$9,954</u>

Source: Auditor summary of questioned transactions.

**Recommendations**

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

1. Direct UH to provide documentation that it has repaid or otherwise credited the \$9,954 in questioned costs for which it has agreed to reimburse NSF.
2. Direct UH to strengthen its policies and procedures related to the creation and retention of documentation, including introducing additional controls to help ensure that UH maintains the appropriate documentation to support the allowability of expenses charged to sponsored programs.
3. Direct UH to strengthen its administrative and management processes and procedures surrounding the approval of travel expense reports. Updated procedures could include:
  - a. Conducting annual training for individuals responsible for reviewing and approving each department’s expense reports.
  - b. Establishing clear guidance regarding what types of expenses personnel may pay in cash while conducting on-site fieldwork and how to document those payments.

**University of Houston Response:** UH agreed with this finding and the associated questioned costs. UH stated that it has updated its travel policy to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, and that it consistently allocates costs to sponsored awards based on the relative benefit received.

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

### **Finding 6: Expenditures Not Compliant with NSF Award Terms and Conditions**

UH inappropriately charged expenses to three NSF awards, including \$1,707 of unallowable expenses, because it did not comply with NSF award terms and conditions. Specifically:

#### ***Non-Compliance with Innovation-Corp Award Terms and Conditions***

UH overcharged an NSF award for \$1,707 in unallowable travel costs because the traveler did not receive prior approval to attend an academic conference, as required by the Innovation-Corps (I-Corps) award program solicitation.<sup>28</sup> Specifically:

- In December 2018, UH charged NSF Award No. [REDACTED] for \$1,707 in travel costs incurred to attend an academic conference but did not request or receive prior approval to attend this conference from the NSF I-Corps program officer.
  - *UH agreed to reimburse NSF for these expenses.*

#### ***Non-Compliance with Intergovernmental Personnel Act Assignments***

UH inappropriately charged costs to two NSF Intergovernmental Personnel Act (IPA) awards because it did not ensure that personnel complied with the terms and conditions outlined in the NSF IPA assignments when charging costs to these awards. Specifically:

- Between November 6, 2017, and November 5, 2018, UH charged NSF Award No. [REDACTED] for \$244,861 in salary and fringe benefit expenses earned by the employee working on the IPA assignment, rather than the \$215,032 that NSF agreed to reimburse for the first year of the IPA assignment.
  - *Because the total cash UH claimed within ACM\$ during the IPA assignment year did not exceed the allowable expenses, we did not question any costs associated with this exception.*
  - *UH agreed with this finding.*
- In October 2018, UH charged NSF Award No. [REDACTED] for \$40,026 in summer salary costs earned by the employee working on the IPA assignment. Although the amount paid was consistent with the employee's institutional base salary, based on the cost-sharing agreement included in the employee's IPA assignment, only 90 percent of this amount should have been charged to the NSF Award.<sup>29</sup>

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<sup>28</sup> NSF I-Corps Solicitation 18-515, Section II.6. states that teams must obtain written prior approval from the NSF I-Corps program officer for either international travel or travel to attend an academic conference.

<sup>29</sup> The IPA assignment for NSF Award No. [REDACTED] states that UH will contribute 10 percent of the employee's salary/fringe benefit expenses.

- *Because the cash UH claimed within ACM\$ during the IPA assignment year was less than the allowable expenses, we did not question any costs associated with this exception.*
- *UH agreed with this finding.*

UH does not have proper controls in place to ensure that it consistently complies with NSF award terms and conditions. We are therefore questioning \$1,707 of expenses that did not comply with NSF award terms and conditions and noted two compliance issues that could have resulted in UH inappropriately drawing down cash from ACM\$. UH concurred with the full \$1,707 of questioned costs, as illustrated in Table 6.

**Table 6. Expenditures Not Compliant with NSF Award Terms and Conditions**

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	UH Agreed to Reimburse
December 2018 I-Corps Travel	██████	2019	\$1,536	\$171	\$1,707	\$1,707
November 2017 – November 2018 IPA Salary	██████	2018-2019	0	0	0	0
October 2018 IPA Salary	██████	2019	0	0	0	0
<b>Total</b>			<b><u>\$1,536</u></b>	<b><u>\$171</u></b>	<b><u>\$1,707</u></b>	<b><u>\$1,707</u></b>

*Source:* Auditor summary of questioned transactions.

***Recommendations***

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

1. Direct UH to provide documentation that it has repaid or otherwise credited the \$1,707 of questioned costs for which it has agreed to reimburse NSF.
2. Direct UH to update its current practices for award set-up to ensure that it appropriately communicates all NSF award terms and conditions. Processes could include:
  - a. Creating formal procedures for establishing Intergovernmental Personnel Act assignments to ensure that personnel charge NSF awards for salary costs in accordance with the approved Intergovernmental Personnel Act assignment, rather than in accordance with their institutional base salary to ensure that it appropriately draws down NSF funding in compliance with the assignments in the future.
  - b. Implementing a control that flags all travel on I-Corps awards for further review to ensure that personnel do not charge travel to an I-Corps award without prior NSF approval.

**University of Houston Response:** UH agreed with this finding and the associated questioned costs. UH stated that it has controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary and that costs are allowable in accordance with federal and sponsor regulations and UH policies. However, UH noted that it will evaluate and improve its current procedures related to reviewing IPA and I-Corps grants.

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

### **Finding 7: Non-Compliance with UH Policies**

UH either did not comply with its own internal policies and procedures when incurring costs charged to NSF awards or did not provide support demonstrating its compliance. Because these instances of non-compliance did not directly result in UH charging unallowable costs to NSF awards, we are not questioning any costs associated with these exceptions.

#### ***Non-Compliance with UH Consultant/Independent Contractor Policies***

We identified five instances in which UH did not comply with its consultant/independent contractor policies.<sup>30</sup> Specifically:

- In January 2016, UH charged NSF Award No. [REDACTED] for consulting services that the Office of Contracts and Grants had not approved, as is required by UH policy. Further, UH did not sign the services contract until after the contractor had performed the services.
- In September 2018, UH charged NSF Award No. [REDACTED] for costs incurred to hire a consultant to provide a lecture; however, UH did not obtain a department business administrator's approval for the consultant contract until after the services had commenced.
- In October 2018, UH charged NSF Award No. [REDACTED] for costs incurred to hire a consultant; however, UH did not obtain a department business administrator's approval for the consultant contract until after the services had commenced.
- In October 2018, UH charged NSF Award No. [REDACTED] for costs incurred to hire a consultant; however, UH did not obtain a department business administrator's approval for the consultant contract until after the services had commenced.

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<sup>30</sup> According to UH Division of Research Sponsored Project Contractual Agreement, *Required Documentation on the Sponsored Project Contractual Agreement*: "The following documentation must be submitted to OCG for processing the agreement a. Contract Cover Sheet - Internal administrative routing sheet, b. Nonresident Alien Information Addendum - To be completed by Nonresidents only, c. Child Support Certification - For payment on state grants and contracts, d. Post-Award Recommendation for Award Form - Used to summarize the basis of best value in selecting a particular contractor, e. Pre-Award Recommendation for Award Form - Completed during budget preparation at the proposal stage, f. PI Certification Memo, and g. No Boycott Israel Procedures - Grantee verification that it (1) does not boycott Israel; and (2) will not boycott Israel during the term of this Grant Agreement."

- In January 2019, UH charged NSF Award No. [REDACTED] for costs incurred to pay a post-doctoral employee to perform 4 months of grant-related experiments as a contractor; however, UH did not appropriately verify that the consultant was not suspended or debarred.<sup>31</sup>

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

We identified five instances in which UH did not comply with its travel policies.<sup>32</sup> Specifically:

- In March 2016, UH charged NSF Award No. [REDACTED] for foreign travel for which personnel had not documented the appropriate pre-approval by the Vice President and Chancellor in the travel reporting system, as is required by UH policy.
- In November 2016, UH charged NSF Award No. [REDACTED] for travel expenses that the traveler incurred for airfare on a foreign air carrier. However, UH did not complete the Fly America Act waiver checklist until after the travel had occurred.<sup>33</sup> In addition, we noted that UH did not obtain administrator approval for the waiver checklist.
- In September 2017, UH charged NSF Award No. [REDACTED] for airfare purchased to allow the traveler to perform both business and personal travel; however, UH did not provide documentation of a cost comparison to show the personal travel did not increase the total airfare expenses above the expenses that UH would have incurred if the traveler had only performed grant-related travel.<sup>34</sup>
- In July 2018, UH charged NSF Award No. [REDACTED] for travel costs incurred for a traveler that combined business and personal travel; however, UH did not provide documentation of a cost comparison to show the personal travel did not increase the total airfare expenses above the expenses that UH would have incurred if the traveler had only performed grant-related travel.

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<sup>31</sup> According to UH Division of Research Sponsored Project Contractual Agreement, *Contractors Paid on Federal Funds*, “The Uniform Guidance identifies specific standards in addition to the University’s requirements, which includes 200.212 Suspension and debarment – Contractors are subject to the non-procurement Debarment and Suspension regulations.”

<sup>32</sup> According to UH Manual of Administrative Policies and Procedures, 04.02.01B, IV. *Advanced Approval of Travel*, A., all foreign travel must be approved by the Vice President and Chancellor through the Concur system.

<sup>33</sup> According to *UH Manual of Administrative Policies and Procedures*, 04.02.01B, “If a foreign-flag air carrier is paid with Federal funds, the Fly America Act Waiver Checklist must be completed to document the exception to the Fly America Act.”

<sup>34</sup> According to *UH Manual of Administrative Policies and Procedures*, 04.02.01B, “If the traveler’s actual airfare includes a personal destination, the traveler must provide a lowest priced airfare quote that only includes business destinations. The traveler will be reimbursed the lesser of the actual airfare, which includes the personal destination, and the quote, which only includes business destinations. Airfare that includes personal destinations may not be directly charged to the university on a Voucher or Travel Card.”

- In July 2018, UH charged NSF Award No. [REDACTED] for foreign travel booked using a corporate travel card; however, UH did not maintain documentation to support that the travel card holder requested and qualified for the travel card used to make the purchase.<sup>35</sup>

***Non-Compliance with UH Salary Policies***

We identified seven instances in which UH did not comply with its salary policies. Specifically:

- UH employees did not always appropriately certify effort charged to NSF awards within 180 days of the end of the quarter, as required by UH policy.<sup>36</sup>

**Table 7.a. Late Effort Certifications**

NSF Award No.	Quarter End Date	Effort Certification Date	Days After Quarter Ended
[REDACTED]	May 31, 2016	May 18, 2018	717
[REDACTED]	August 31, 2016	April 10, 2017	222
[REDACTED]	August 31, 2016	April 18, 2017	230
[REDACTED]	February 28, 2017	March 28, 2018	393
[REDACTED]	February 28, 2017	February 20, 2018	357
[REDACTED]	May 31, 2017	February 12, 2018	257

Source: Auditor summary of late effort certifications identified.

- Between June and November 2018, UH charged NSF Award No. [REDACTED] for \$30,900 in participant stipend payments made to a graduate student performing grant-related research. UH identified this student as a participant on the award; however, because this individual was a UH graduate student serving as a research assistant on the grant, rather than participating in a training program, UH should have hired the student and paid them as an employee, rather than providing the student with monthly participant stipend payments.<sup>37</sup>

***Non-Compliance with UH Equipment Policies***

We identified one instance in which UH did not comply with its internal equipment policies. Specifically:

<sup>35</sup> According to *UH Manual of Administrative Policies and Procedures*, 04.02.01C, “Corporate travel cards are issued to those faculty and staff employees who request and qualify for such a card.”

<sup>36</sup> According to UH Division of Research Effort Reporting Guidelines, *Timing and Responsibility*, “Each department is responsible for establishing business processes to certify effort reports. The Department Business Manager is responsible for working with the PI and for follow-up to ensure effort forms are certified.” The required timeframe is 180 days. The PIs have 30 days to certify the effort forms.

<sup>37</sup> UH’s *Participant Cost Form for Sponsored Projects Payment Form* indicates that UH should only make stipend payments to non-UH employees who are participating in a training program, and that a participant stipend is not considered a payment for services.

- In June 2018, less than 6 months before NSF Award No. [REDACTED] expired, the PI purchased equipment and charged it to the award before receiving the Office of Contracts and Grants' approval to do so, as is required by UH policies and procedures.<sup>38</sup>

UH did not follow, or maintain documentation to support that it followed, its established policies and procedures for expenditures related to travel, equipment, salary, and consultants/independent contractors.

**Table 7.b. Non-Compliance with UH Policies**

Description	NSF Award No.	Fiscal Year	Questioned Costs			UH Accepted Finding
			Direct	Indirect	Total	
January 2016 Consultant	[REDACTED]	2016	\$0	\$0	\$0	Yes
September 2018 Consultant	[REDACTED]	2018	0	0	0	Yes
October 2018 Consultant	[REDACTED]	2018	0	0	0	Yes
October 2018 Consultant	[REDACTED]	2018	0	0	0	Yes
January 2019 Consultant	[REDACTED]	2019	0	0	0	Yes
March 2016 Travel	[REDACTED]	2016	0	0	0	Yes
November 2016 Travel	[REDACTED]	2016	0	0	0	Yes
September 2017 Travel	[REDACTED]	2017	0	0	0	Yes
July 2018 Travel	[REDACTED]	2018	0	0	0	Yes
July 2018 Travel	[REDACTED]	2018	0	0	0	Yes
April 2017 Certification	[REDACTED]	2016	0	0	0	Yes
May 2018 Certification	[REDACTED]	2016	0	0	0	Yes
April 2017 Certification	[REDACTED]	2016	0	0	0	Yes
March 2018 Certification	[REDACTED]	2017	0	0	0	Yes
February 2018 Certification	[REDACTED]	2017	0	0	0	Yes
February 2018 Certification	[REDACTED]	2017	0	0	0	Yes
June- November 2018 Student Paid through Participant Stipends	[REDACTED]	2018, 2019	0	0	0	Yes
June 2018 Equipment	[REDACTED]	2018	0	0	0	Yes
<b>Total</b>			<b><u>\$0</u></b>	<b><u>\$0</u></b>	<b><u>\$0</u></b>	

Source: Auditor summary of identified instances of non-compliance.

**Recommendation**

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

1. Direct UH to strengthen its administrative and management procedures for approving consultant and independent contractor payments. Processes could include:

<sup>38</sup> According to *UH Manual of Administrative Policies and Procedures*, 05.02.01, "In addition, the following expenditure documents must be submitted to OCG for approval when sponsored project funds are used: ... 2. Equipment purchases in the last six months of an award."

- a. Establishing controls that do not allow vendors being paid through sponsored funding resources to receive payment until after the consultant or contractor agreement has been appropriately approved by the Office of Contracts and Grants, the department business administrator, and any other relevant parties.
  - b. Implementing automated controls that prevent a vendor from receiving payment from sponsored funding resources if the vendor has been suspended or debarred.
2. Direct UH to strengthen its administrative and management procedures for incurring travel costs related to sponsored projects. Processes could include:
  - a. Conducting annual training for individuals who charge travel expenses to federally sponsored projects. The training should specifically address how to ensure compliance with prior approval requirements for foreign travel and how to document compliance with the Fly America Act.
3. Direct UH to strengthen its administrative and management procedures surrounding effort reporting. Processes could include:
  - a. Implementing automated controls that notify the Office of Contracts and Grants of any effort charged to sponsored projects that was not certified within the required reporting window.
  - b. Updating its current effort-reporting policies to require that personnel certify their effort within 90 days of the end of a quarterly reporting period.
4. Direct UH to issue specific guidance regarding when UH can pay individuals through participant support stipends.
5. Direct UH to strengthen its administrative and management procedures for equipment expenditures in the final 6 months of a grant's period of performance to ensure that personnel obtain the Office of Contracts and Grants' approval before purchasing equipment.

**University of Houston Response:** UH agreed with each of the exceptions identified in the finding. UH stated that, although its current process for screening contractors before executing agreements relies on manual controls, it is in the process of implementing a system solution that will automate the screening of vendors and prevent UH from paying any vendors that are suspended or debarred. In addition, UH stated that it offers annual job-related training and will update this training to focus on the areas identified.

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

**Finding 8: Incorrect Application of Proposed Indirect Cost Rates**

UH applied incorrect indirect cost rates to direct expenses accumulated on 30 NSF awards. For each of these awards, UH applied the NICRA rate that was in effect at the time it submitted the award proposal, rather than the rate that was in effect as of the date of award, as required by applicable Federal<sup>39</sup> and NSF guidance.<sup>40</sup> As a result, UH applied indirect costs at rates that were lower than were the approved NICRA rates based on the date of grant award, as summarized in Table 8.

**Table 8. Incorrect Application of Proposed Indirect Cost Rates**

NSF Award No.	Award Effective Date	Rate Applied	Appropriate Rate
	3/31/2009	49.00%	50.50%
	8/12/2009	50.00%	50.50%
	9/15/2009	50.00%	50.50%
	9/20/2010	50.00%	50.50%
	12/12/2011	49.50%	50.50%
	1/19/2012	39.90%	50.00%
	5/29/2012	49.50%	50.50%
	1/13/2012	49.50%	50.50%
	8/23/2012	50.00%	50.50%
	8/15/2012	50.00%	50.50%
	7/28/2012	50.00%	50.50%
	9/15/2012	50.00%	50.50%
	2/26/2013	50.00%	50.50%
	6/7/2013	50.00%	50.50%
	6/7/2013	50.00%	50.50%
	8/1/2013	50.00%	50.50%
	8/1/2013	50.00%	50.50%
	8/1/2013	50.00%	50.50%
	8/1/2013	50.00%	50.50%
	8/1/2013	50.00%	50.50%
	12/18/2014	0.00%	50.50%
	2/2/2016	50.50%	53.00%
	12/31/2015	50.50%	53.00%
	4/15/2016	50.50%	53.00%
	8/23/2016	50.50%	53.00%
	9/8/2016	50.50%	53.00%
	6/15/2016	50.50%	53.00%
	3/8/2017	50.50%	53.00%
	1/27/2017	50.50%	53.00%
	3/13/2017	50.50%	53.00%
	7/24/2017	50.50%	53.00%

<sup>39</sup> According to 2 CFR 220, Appendix A, Section G.7.a. and 2 CFR Part 200, Appendix III, Section C.7, when identifying and computing indirect costs at Institutions of Higher Education, Federal agencies must use the negotiated rates in effect at the time of the initial award throughout the life of the award.

<sup>40</sup> NSF also requires Institutions of Higher Education to use the negotiated indirect cost rate in effect at the time the award was made throughout the life of the award. See NSF PAPPs 9-29, 10-1, 11-1, 13-1, 14-1, 15-1, 16-1, 17-1, and 18-1, Part I, Chapter II, Section C.2.g.(viii).

NSF Award No.	Award Effective Date	Rate Applied	Appropriate Rate
	7/24/2017	50.50%	53.00%
	7/27/2017	50.50%	53.00%
	7/25/2017	17.00%	53.00%
	7/3/2017	50.50%	53.00%
	9/19/2017	0.00%	53.00%

Source: Auditor summary of identified instances of non-compliance.

When UH is awarded an NSF grant, it sets up an account to apply indirect costs at the rate(s) included in the approved proposal, so long as the rate(s) are equal to or less than the current rate at the time of the award. UH does this so the rate(s) do not negatively impact the direct costs for the project. As a result, UH applied inappropriate indirect cost rates to direct expenses accumulated on 30 NSF awards.

**Recommendation**

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

1. Direct UH to update its current award set-up practices to ensure that it sets up accounts for NSF awards such that the account applies indirect costs at the rates established in the Negotiated Indirect Cost Rate Agreement that was in effect as of the date of grant award, rather than using the rates included in the original grant proposals.

**University of Houston Response:** UH did not agree with this finding. UH stated that for the period in question, it had a written policy stating that UH would charge indirect costs to multi-year awards at the rate in effect at the time the project started. Specifically, UH provided a September 2011 memorandum in which UH noted that, although its negotiated indirect cost rate agreement included a four year plan, it would continue to follow its long-established indirect cost rate policies which state that indirect costs should be applied to multi-year awards at the rate in effect at the time the project starts for the life of the award. Further, UH provided correspondence between UH and the NSF Policy Office dated June 2020 in which an NSF Branch Chief stated that he believed that UH was correct to only use one rate throughout the life of the award.

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. Specifically, while UH did follow its own internal policies, because UH’s NICRAs included multiple predetermined negotiated rates and because, according to Federal and NSF guidance, agencies must use the negotiated rates in effect at the time of the initial award throughout the life of the Federal award, rather than a single negotiated rate, our position regarding this finding has not changed.

**Finding 9: Specialized Service Facility Rates Not Appropriately Reviewed**

UH did not appropriately ensure that the billing rates submitted for one of its specialized service facilities were appropriately reviewed and adjusted, as necessary, on a biennial basis to ensure

that the center only recovered the aggregate costs of the services it provided, as required by Federal regulations.<sup>41</sup> Specifically, as a result of our audit, UH determined that the UH cost accounting office had not appropriately reviewed or approved the schedule of rates that UH's [REDACTED] research laboratory submitted in 2018.

UH does not have appropriate procedures in place to ensure that its cost accounting office appropriately reviews, approves, and adjusts rates developed by its specialized service facilities at least biennially. As a result, UH may have charged NSF awards using service center rates that did not comply with Federal regulations.

### ***Recommendation***

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

1. Direct UH to update its current practices for specialized service facilities to ensure that it complies with all of the Federal requirements for these facilities, as outlined in 2 CFR §200.468, *Specialized service facilities*.

**University of Houston Response:** UH agreed with the finding. UH noted that it will strengthen its administrative and management procedures for specialized service facilities (SSFs) to ensure that it appropriately performs biennial reviews as required by its SSF policy.

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

COTTON & COMPANY LLP



Megan Mesko, CPA, CFE  
Partner  
July 22, 2020

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<sup>41</sup> According to 2 CFR §200.468, the costs of services provided by specialized service facilities must be charged to applicable awards on the basis of a schedule of rates or established methodology that is designed to recover only the aggregate costs of the services. Further, it states that grantees must adjust these at least biennially and must take into consideration over/under-applied costs in the previous period(s).

**APPENDIX A: SCHEDULE OF QUESTIONED COSTS BY FINDING**

NATIONAL SCIENCE FOUNDATION  
ORDER # 140D0418F0438  
PERFORMANCE AUDIT OF COSTS CLAIMED ON NSF AWARDS  
UNIVERSITY OF HOUSTON

SCHEDULE OF QUESTIONED COSTS BY FINDING

Finding	Description	Questioned Costs		Total
		Unsupported	Unallowable	
1	Expenses Not Appropriately Allocated to NSF Awards	\$0	\$53,666	\$53,666
2	Unallowable Expenses	0	37,577	37,577
3	Indirect Costs Not Appropriately Applied	0	19,445	19,445
4	Goods and Services Not Appropriately Procured	0	10,956	10,956
5	Expenses Not Adequately Supported	0	9,954	9,954
6	Expenditures Not Compliant with NSF Award Terms and Conditions	0	1,707	1,707
7	Non-Compliance with UH Policies	0	0	0
8	Incorrect Application of Proposed Indirect Cost Rates	0	0	0
9	Specialized Service Facility Rates Not Appropriately Reviewed	0	0	0
<b>Total</b>		<b><u>\$0</u></b>	<b><u>\$133,305</u></b>	<b><u>\$133,305</u></b>

**APPENDIX B: UNIVERSITY OF HOUSTON RESPONSE**

June 30, 2020

Cotton & Company, LLP  
Attn: Megan Mesko, CPA, CFE - Partner  
635 Slaters Lane, 4<sup>th</sup> Floor  
Alexandria, VA 22314

This representation letter is provided in connection with your audit of the expenditures claimed by the University of Houston (UH) on National Science Foundation (NSF) awards for the period February 1, 2016, to January 31, 2019, for the purpose of determining whether the expenditures claimed are allowable in accordance with Office of Management and Budget (OMB) Cost and Administrative Circulars, NSF policies and procedures, award terms and conditions, and UH's policies and procedures.

As senior officials at UH, we acknowledge our responsibility to maintain supporting documentation as evidence that expenditures claimed on NSF awards were consistent with the aforementioned policies and procedures. In addition, we confirm that, to the best of our knowledge and belief, having made such inquiries as we considered necessary, as of *06/26/2020*, we have provided you with:

- All information and documentation necessary to support the expenditures claimed by UH on NSF awards for the period February 1, 2016, to January 31, 2019;
- All additional information that you have requested from us for the purpose of the audit; and,
- Unrestricted access to persons within UH from whom you determined it necessary to obtain audit evidence.

UH respects the professionalism of Cotton & Company LLP (C&C) in conducting the audit. We agree to reimburse the NSF \$70,913.00 in questioned costs identified by C&C. We do not agree with \$62,392.00 of questioned costs.

Although we believe the findings included in this report relate almost exclusively to isolated incidents, UH appreciates the recommendations provided by C&C, and in response to this report, plans to evaluate and identify areas to improve policy, procedure, training, and guidance.

The University of Houston's response to the audit findings are detailed in the enclosed appendix.

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Beverly Rymer, Executive Director, Office of Contracts and Grants

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Amr Elnashai, FREng, Vice Chancellor/Vice President for Research and Technology Transfer

**Appendix: University of Houston's Response to Audit Findings**

**Finding 1: Expenses Not Appropriately Allocated to NSF Awards**

UH has controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, and to ensure that costs are consistently allocated to sponsored awards based on the relative benefit received. PIs receive a system-generated progress report reminder. UH will update the reminder to direct PIs to identify all award participants and report all award-related travel in annual reports submitted to the NSF.

NSF Award No.	Total	UH Response
[REDACTED]	\$3,260.00	UH does not agree with this questioned cost. The grant is an <a href="#">NSF CAREER</a> award in which activities are meant to build a firm foundation for a lifetime of integrated contributions to research and education. Funds were budgeted and approved for software purchases. When the software was purchased, the PI did not contemplate its use in other projects, nor was it needed for work under other projects.
[REDACTED]	\$7,641.00	<p>UH does not agree with this finding. 2 CFR 200.466 and OMB memorandum <a href="#">M-01-06</a>, dated January 5, 2001, clarifies that employment is not a requirement for tuition remission that can be budgeted as a direct cost. Both the student and the PI signed the tuition remission form, which certifies that the student allotted effort to the award. In the proposal, the student is named the faculty advisee, and in the budget, graduate student tuition is requested and approved under other direct cost categories.</p> <div data-bbox="560 884 1252 978" style="border: 1px solid red; padding: 5px;"> <p>I certify that student is conducting activities necessary to the award and tuition is provided in accordance to the established University policy. During the academic period, the student is enrolled in an advanced degree program at the University and the activities of the student in relation to the award are related to the degree program. The tuition is reasonable and conditioned explicitly upon the performance of necessary work.</p> </div> <div data-bbox="560 995 1252 1062" style="border: 1px solid black; padding: 5px;"> <p>Supervisor/Principal Investigator Signature: [REDACTED] Date: 18 Sept 2017            Department Business Manager Signature: [REDACTED] Date: 09/26/17</p> </div>
[REDACTED]	\$12,250.00	<p>UH does not agree with this questioned cost. The incorrect account code was used. The grant is still active and UH will correct the account code. Additionally, the amount paid is correct for the seven months specified (October 2017 – April 2018: amount \$12,250/7 = \$1,750.00).</p> <div data-bbox="532 1167 1284 1329" style="border: 1px solid black; padding: 5px;"> <p>PCC: 9            Bank: BOAH            Scheduled Due Date: 05/11/2018            Gross Amount: \$12250.00</p> <p>Old Voucher Comments:            New Voucher Comments: Please process stipend for [REDACTED] Oct 2017 - Apr 2018 to conduct research under [REDACTED]. Please see the attached email.</p> <p>Payment Comments:</p> </div> <div data-bbox="532 1335 1284 1633" style="border: 1px solid black; padding: 5px;"> <p>This is to certify that I accept the student [REDACTED] to continue [REDACTED] PhD studies in my group. I agree to support the student with a monthly stipend of [REDACTED] for the period between June 2017 end May 2018 (12 months).</p> <p align="center">Houston, May 10, 2017</p> <div data-bbox="560 1465 1101 1619" style="background-color: black; width: 100%; height: 100%;"></div> <p align="center">University of Houston</p> </div>
[REDACTED]	\$4,057.00	UH does not agree with this finding. It is often necessary to purchase supplies at the end of an award in order to finalize work that will achieve award objectives at award closeout. When the supplies were purchased, the PI did not contemplate its use in other projects, nor was it needed at the time for work under other projects.

	\$4,736.00	UH agrees to reimburse NSF.
	\$10,219.00	UH agrees to reimburse NSF.
	\$1,756.00	UH agrees to reimburse NSF.
	\$4,802.00	UH agrees to reimburse NSF.
	\$4,945.00	<p>UH does not agree with this finding. The symposium and conference are the same (a and c). The PI spent five out of the seven days of the trip attending and presenting at the symposium/conference meetings.</p> <div style="border: 1px solid black; padding: 5px;"> <p>rip to [redacted] and [redacted] 05/26/2018-06/04/2018</p> <p>05/26/2018, Saturday, left [redacted]</p> <p>05/27/2018, Arrived [redacted]</p> <p>05/28/2018 [redacted]</p> <p>05/29/2018 [redacted]</p> <p>05/30/2018 [redacted]</p> <p>05/31/2018 [redacted]</p> <p>06/01/2018 [redacted]</p> <p>06/02/2018 Departed [redacted]</p> <p>06/03/2018 Departed [redacted]</p> <p>06/04/2018 [redacted]</p> </div>

**Finding 2: Unallowable Expenses**

UH has controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, and to ensure that costs are allowable in accordance with federal and sponsor regulation and University Policy. However, UH will evaluate and improve its current procedures and will provide annual training in the areas identified.

NSF Award No.	Amount	UH Response
[redacted]	\$11,431.00	UH does not agree with this finding. The University provided evidence of Written Prior Approval from the Program Officer to use the remaining funds at the end of the award. The approval date was 03/17/2016, but due to administrative delays, the purchase and invoice were late. Note: This is similar to sample C&C_053, but the items were ordered and received before the POP.

	\$453.00	UH does not agree with this finding. The base price of the item is 4000 EURO. UH determined that the vendor did not receive the initial disbursement, so a stop payment and reissuing of payment was made. The difference in amount was due to the change in the currency rate.
	\$1,396.00	UH agrees to reimburse NSF.
	\$4,402.00	UH does not agree with this finding. While the textbook publication is not part of the SOW, it is the manner in which knowledge gained from the NSF award is disseminated after the award is expired. The book is listed in the progress report and is copyrightable material. Under <a href="#">NSF 723-copyright</a> terms and condition, to preserve incentives for private dissemination and development, NSF normally will not restrict, or take any part of the income earned from, copyrightable material except as necessary to comply with the requirements of any applicable government-wide policy or international agreement.
	\$10,085.00	UH agrees to reimburse NSF.
	\$1,501.00	UH does not agree with this finding. <a href="#">NSF 19-1, PAPPG</a> , indicates that local participants may participate in conference meals and coffee breaks.
	\$1,826.00	UH agrees to reimburse NSF.
	\$2,195.00	UH agrees to reimburse NSF.
	\$150.00	UH agrees to reimburse NSF.
	\$673.00	UH agrees to reimburse NSF.
	\$3,465.00	UH agrees to reimburse NSF.

**Finding 3: Indirect Costs Not Appropriately Applied**

UH now has controls within the grant management system to ensure that accounts established to budget and expend for participant support cost and tuition remission are excluded from the MTDC base. UH has a dedicated property management staff responsible for evaluating whether UH should account for the items as equipment. However, UH will assess and improve its current procedures in this area and will provide annual training as needed.

NSF Award No.	Amount	UH Response
	\$8,334.00	UH agrees to reimburse NSF.
	\$6,060.00	UH agrees to reimburse NSF.
	\$1,494.00	UH agrees to reimburse NSF.
	\$3,557.00	UH agrees to reimburse NSF.

**Finding 4: Goods and Services Not Appropriately Procured**

When the contractor is a consultant identified in the proposal, and their work is part of the project plan and SOW, UH uses the sole-source justification that is included in and part of the Recommendation for Award Form. UH will update its policy to include the use of both the Recommendation for Award form and the sole-source justification for all procurement above the allowable threshold when applicable.

NSF Award No.	Amount	UH Response
[REDACTED]	\$7,650.00	UH does not agree with this finding. The signed sole source justification was attached to the Purchased Order. <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p style="text-align: center;">Justification for Sole Source Purchases</p> <p>I certify that the above statements are true and correct to the best of my knowledge. I also certify that neither I nor my family members will gain or receive any additional benefit because I have recommended that this acquisition be made from the selected vendor or contractor.</p> <p>Person requesting Proprietary Purchase * <span style="float: right;">[REDACTED] 9-26-18</span>  Signature <span style="float: right;">Date</span></p> <p>* For research grants, this person must be the Principle Investigator or designee.</p> <p>Department <span style="float: right;">[REDACTED] 9/27/18</span>  College/Division Administrator <span style="float: right;">Date</span></p> <p>[REDACTED] <span style="float: right;">10/4/18</span>  Purchasing Department Approver <span style="float: right;">Date</span></p> </div>
[REDACTED]	\$3,306.00	UH agrees with this finding.
[REDACTED]	\$0.00	UH agrees with this finding.
[REDACTED]	\$0.00	UH agrees with this finding.
[REDACTED]	\$0.00	UH agrees with this finding.
[REDACTED]	\$0.00	UH agrees with this finding.

**Finding 5: Expenses Not Adequately Supported**

UH has updated its travel policy to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, and to ensure that costs are consistently allocated to sponsored awards based on the relative benefit received.

NSF Award No.	Amount	UH Response
[REDACTED]	\$9,954.00	UH agrees with this finding.

**Finding 6: Expenditures Not Compliant with NSF Award Terms and Conditions**

UH has controls in place to ensure that expenses charged to federally sponsored awards are allowable, allocable, reasonable, and necessary, and to ensure that costs are allowable in accordance with federal and sponsor regulation and University Policy. UH will evaluate and improve its current procedures of reviewing IPA and I-Corps grants.

NSF Award No.	Amount	UH Response
[REDACTED]	\$1,707.00	UH agrees to reimburse NSF.
[REDACTED]	\$0.00	UH agrees to reimburse NSF.
[REDACTED]	\$0.00	UH agrees to reimburse NSF.

**Finding 7: Non-Compliance with UH Policies**

UH has manual controls in place to ensure the vetting of contractors before executing agreements. UH is implementing a system solution that will automate the screening of vendors and prevent vendors from being paid if they are suspended or debarred. UH offers annual job-related training, and training will be updated to focus on the areas identified.

Finding	NSF Award No.	Amount	UH Response
Non-Compliance with UH Consultant/Independent Contractor Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Consultant/Independent Contractor Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Consultant/Independent Contractor Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Consultant/Independent Contractor Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Consultant/Independent Contractor Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Travel Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Travel Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Travel Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Travel Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Travel Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Salary Policies		\$0.00	UH agrees with this finding.
Non-Compliance with UH Equipment Policies		\$0.00	UH agrees with this finding.

**Finding 8: Incorrect Application of Proposed Indirect Cost Rates**

UH does not agree with this finding. For the period in question, UH had a written policy regarding the implementation of the new IDC Rates. The implementing letter can be found [here](#). Additionally, the NSF Policy Office agreed with the University's application of its IDC rate. The documented email correspondence with the NSF Policy Officer can be found [here](#).

**Finding 9: Specialized Service Facility Rates Not Appropriately Reviewed**

The University policy on Specialized Service Facilities is in line with the Uniform Guidance in that billing rates must be reviewed and approved biennially (every two years) and, when warranted, adjusted to compensate for under or over recoveries of costs in prior fiscal periods. UH will strengthen its administrative and management procedures surrounding special service facilities to ensure that reviews are performed as per policy.

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

## OBJECTIVES, SCOPE, AND METHODOLOGY

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

Accordingly, we conducted this engagement in two phases, as follows:

**Audit Survey Phase:** After obtaining NSF OIG’s approval for our audit plan, we performed all of the audit survey steps outlined in the plan. Generally, these steps included:

- Assessing the reliability of the general ledger data that UH provided by comparing the costs charged to NSF awards per UH’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests.
  - Our work required us to rely on computer-processed data obtained from UH and NSF OIG. NSF OIG provided award data that UH reported through ACM\$ during our audit period.
    - We assessed the reliability of the general ledger data that UH provided by (1) comparing the costs charged to NSF awards per UH’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that UH submitted to NSF during the audit survey POP; and (2) reviewing the parameters that UH used to extract transaction data from its accounting systems. We identified a number of discrepancies between the amounts supported by UH’s general ledger and the amounts that UH claimed per NSF’s ACM\$ system; however, we found UH’s computer-processed data to be sufficiently reliable for the purposes of the audit survey, as UH was able to provide justification for all discrepancies identified and we did not identify any issues with the parameters that UH used to extract the accounting data.
    - We found NSF’s computer-processed data to be sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or the controls over, NSF’s databases were accurate or reliable; however, the independent auditor’s report on NSF’s financial statements for FY 2019 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.
  - UH provided detailed transaction-level data to support all costs charged to NSF awards during the period. This data resulted in a total audit universe of \$45,686,121 in costs claimed on 297 NSF awards.
- Obtaining and reviewing all available accounting and administrative policies and procedures, external audit reports, desk review reports, and other relevant information that

UH and NSF OIG provided, as well as any other relevant information that was available online.

- Summarizing our understanding of Federal, NSF, and UH-specific policies and procedures surrounding costs budgeted for and/or charged to NSF awards and specifically identifying the controls in place to ensure that costs charged to sponsored projects were reasonable, allocable, and allowable.
- Evaluating the strengths and weaknesses of the policies and procedures that UH has in place to control the inherent, fraud, and control risks identified for each budget category.
- Providing UH with a list of 45 transactions that we selected based on our data analytics and requesting that UH provide documentation to support each transaction.
- Reviewing the supporting documentation that UH provided and requesting additional documentation as necessary to ensure that we obtained sufficient, appropriate evidence to enable us to assess the allowability of each sampled transaction.
- Holding interviews and walkthroughs to discuss payroll (including effort reporting), fringe benefits, travel, participant support costs, procurement, equipment (including performing an inventory check), the graduate research fellowship program, other direct costs (including areas such as patents, relocation, recruiting, interest, advertising/public relations, entertainment, fundraising, lobbying, selling/marketing, and training costs), grant close-out procedures, subawards, ACMS\$ processing, indirect costs, and other general policies (including areas such as pre- and post-award costs, program income, whistleblower information, research misconduct, and conflict of interest policies).
- Preparing an organizational risk assessment that (1) summarized the results of our planning/initial fieldwork, (2) included areas of elevated risk of noncompliance that we identified in the organization's award management environment, and (3) contained our recommendations for expanded testing.

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

- Conducting additional data analytics, evaluating the results of the analytics, and re-running analytical tests, as necessary.
- Selecting an additional audit sample of 80 transactions.
- Conducting additional fieldwork, which included providing the list of 80 transactions to UH and requesting/reviewing supporting documentation until we had obtained sufficient, appropriate evidence to enable us to assess the allowability of each sampled transaction.

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

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



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