

National Science Foundation • Office of Inspector General 4201 Wilson Boulevard, Suite I-1135, Arlington, Virginia 22230

MEMORANDUM

Date:

August 10, 2016

To:

Jeffery Lupis

Division Director, Division of Acquisition and Cooperative Support

From:

Marie A. Maguire

Assistant Inspector General for Audit (Acting)

Mague

Subject:

Audit Report No. 16-1-019,

Performance Audit of Management Fees at Association of Universities for

Research in Astronomy (AURA)

This memo transmits the Cotton & Company LLP report for the performance audit of management fees awarded by the National Science Foundation (NSF) to the Association of Universities for Research in Astronomy (AURA).

For the period October 1, 2011 to September 30, 2014, the auditors found that AURA did not track its use of NSF-provided management fees and could therefore have used the fees to pay for expenses that were neither ordinary nor necessary to facilitate basic business operations at AURA's NSF-funded centers. Specifically, the auditors noted that NSF management fees could have been used to pay for expenses that were not ordinary and necessary for the operation of AURA, such as alcohol, entertainment, repair expenses for tennis courts, gas and electric expenses to power a pool, and premium airline and credit card memberships for AURA employees.

AURA, in its response dated July 22, 2016, which is attached in its entirety in the report, states that AURA did not track its use of NSF-provided management fees separately from other sources of unencumbered income as no such requirement existed to do so for the period covered by the audit. AURA also notes that it is has other sources of money to pay for the expenses noted in the report and that it is now segregating these other sources of money from management fees.

The auditors made five recommendations in the report related to management fees. Please coordinate with our office during the six month resolution period, as specified by OMB Circular A-50, to develop a mutually agreeable resolution of the audit findings.

OIG Oversight of Audit

To fulfill our responsibilities under generally accepted government auditing standards, the Office of Inspector General:

- Reviewed Cotton & Company'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 Cotton & Company and NSF officials, as necessary, to discuss audit progress, findings, and recommendations;
- Reviewed the audit report, prepared by Cotton & Company to ensure compliance with generally accepted government auditing standards; and
- Coordinated issuance of the audit report.

Cotton & Company is responsible for the attached auditor's report on AURA and the conclusions expressed in the report. We do not express any opinion on the conclusions presented in Cotton & Company's 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 Elizabeth Goebels at 703-292-8483.

Attachment

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ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY (AURA)

PERFORMANCE AUDIT OF MANAGEMENT FEES AWARDED ON NATIONAL SCIENCE FOUNDATION COOPERATIVE AGREEMENTS FOR THE PERIOD OCTOBER 1, 2011, TO SEPTEMBER 30, 2014

NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL

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NATIONAL SCIENCE FOUNDATION PERFORMANCE AUDIT OF MANAGEMENT FEES ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY

I. EXECUTIVE SUMMARY

Cotton & Company LLP (referred to as "we") conducted a performance audit of management fees awarded by the National Science Foundation (NSF) to the Association of Universities for Research in Astronomy (AURA) for the period from October 1, 2011, to September 30, 2014. We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS).

The audit objectives included determining whether AURA's method of charging and using management fees was in accordance with its NSF proposals, evaluating whether these fees were used for ordinary and necessary expenses (that were not otherwise reimbursable) to facilitate basic business operations at AURA, and comparing the amount of management fees received during the audit period to the amount of unallowable expenses identified.

We found that AURA did not track its use of NSF-provided management fees and could therefore have used the fees to pay for expenses that were neither ordinary nor necessary to facilitate basic business operations at its NSF-funded centers. Specifically, we noted that AURA could have used NSF management fees to pay for expenses such as alcohol, entertainment, repairs to tennis courts, gas and electricity to power a pool, and premium airline and credit card memberships for AURA employees.

II. BACKGROUND

NSF 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 (CAs), and contracts, NSF enters into relationships with non-federal organizations to fund research and education initiatives and to gain assistance in supporting its internal financial, administrative, and programmatic operations. One such organization receiving funding from NSF is AURA.

AURA is a consortium of 42 U.S. institutions and 5 international affiliates that operate astronomical observatories. It currently operates four astronomical facilities under CAs with NSF:

- The Gemini Observatory (Gemini)
- The National Optical Astronomy Observatory (NOAO)
- The National Solar Observatory (NSO)
- The Large Synoptic Survey Telescope (LSST)

AURA also operates one additional facility, the Space Telescope Science Institute (STScI), under a contract with NASA.

In September 2014, Senators Charles Grassley and Rand Paul sent a letter to NSF's director regarding the preliminary draft results of an audit of the accounting system of another of NSF's awardees. This audit was performed by the Defense Contract Audit Agency (DCAA) at the request of the NSF Office of Inspector General (OIG), which provides independent oversight of NSF's programs and operations. The draft audit found that federal grant money that NSF had provided to the awardee in the form of a "management fee" had been used to pay for expenses that could be considered unallowable under NSF awards. Specifically, DCAA found that the awardee was using the management fees to cover expenses for lobbying, Christmas parties, premium coffee services, Board of Directors (BOD) dinners, and other costs that were not part of the entity's official business.

In response to this letter, which contained congressional inquiries related to NSF's management fees, the NSF OIG engaged Cotton & Company LLP to conduct a performance audit of management fees that NSF awarded to AURA from October 1, 2011, to September 30, 2014.² Our audit of AURA encompassed in expenses that AURA had allocated to unencumbered funding during our audit period, of which may have been paid using management fee funding provided by NSF. The purpose of this audit were to: (1) determine whether AURA's charging and use of management fees was in accordance with NSF proposals, federal regulations, NSF policy, any negotiation memoranda, and its own policies; (2) evaluate whether these fees were used for ordinary and necessary expenses (that were not otherwise reimbursable) to facilitate basic business operations at AURA; and (3) compare the amount of management fees received to the amount of unallowable expenses identified and draw any conclusions that arise from this comparison.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS), issued by the Government Accountability Office (GAO). We communicated the results of our audit and the related findings and recommendations to AURA and the NSF OIG.

III. MANAGEMENT FEE HISTORY

According to the NSF OIG's *White Paper on Management Fees*, issued on November 24, 2014, the concept of providing management fees to non-profit entities was established shortly after World War II as part of the development of Federally Funded Research and Development Centers (FFRDCs). The FFRDCs' mission was to perform research and development for the government that the government was unable to provide itself. The FFRDCs were typically non-profit entities and were almost wholly dependent upon government funding; however, they

¹ See Office of Management and Budget (OMB) Circular A-122, Att. B, para. 25; 2 CFR § 200.450; and FAR 31.205-22 for explicit definitions of lobbying.

² Cotton & Company was also engaged to examine NSF's process for awarding management fees and to conduct a performance audit of management fees that NSF awarded to the National Ecological Observatory Network (NEON).

would necessarily incur costs that could not be reimbursed under federal cost principles. As a result, the government created management fees to bridge the gap between what could be reimbursed under an award as a direct or indirect cost, and what could not be reimbursed as such but was still needed to ensure the entity's financial viability. A 2003 Congressional Research Report³ summed up this practice as follows:

While Centers are not-for-profit entities, they are allowed to charge the government fees above and beyond the cost of carrying out their responsibilities. Some Centers charge fees to cover ordinary and necessary costs of doing business that are not otherwise reimbursable, but that the government recognizes must be incurred. These fees can also be used by an FFRDC to conduct independent research. The [Federal Acquisition Regulation (FAR)] acknowledges the legitimacy of such fees.

While the FAR, which does not apply to NSF CAs, acknowledged the legitimacy of these fees, the government did not issue any guidance regarding how the fees should be monitored or justified, which led to many concerns regarding what types of expenses the fees should cover. After a number of GAO reports available to the public found that FFRDCs were using management fees to pay for expenses such as holiday parties, receptions, and personal use of company-furnished cars, GAO recommended adopting government-wide guidelines to identify appropriate restrictions on the use of the fees and to precisely define what constitutes an ordinary and necessary expense. And such guidelines were ever published, however.

Before June 2015, the only NSF policy that addressed management fees was its Proposal and Award Policies and Procedures Guide (PAPPG).⁵ Specifically, PAPPG Chapter V, Section E states that "payment of fees (profit) are allowable only if specifically permitted by a program solicitation and only to the extent that it does not exceed the amount negotiated by the Grants and Agreements Officer and specified in the award letter." This document did not include any specific guidance regarding how the fee amount should be determined, how it should be monitored, or what types of expenses should be reimbursable using these fees.

In June 2015, NSF issued an updated Large Facilities Manual, NSF 15-089. This updated document contained specific guidance addressing the definition, award, and use of management fees under NSF awards. The manual defines management fees as an amount of money paid to a recipient in excess of a CA's allowable costs and states that the following expense categories will be used in the negotiation and award of management fees:

- Working capital necessary to fund operations under an award.
- Facilities capital necessary to acquire assets for performance.
- Other ordinary and necessary expenses for business operations not otherwise reimbursable under the governing principles.

³ Department of Homeland Security: Issues Concerning the Establishment of Federally Funded Research and Development Centers (FFRDCs) (November 13, 2003).

⁴ See *Issues Relating to the Management of DOD-Sponsored Centers*, GAO/NSIAD 96-112 (August 1996) for GAO's recommendation.

⁵ NSF's Proposal and Award Manual (PAM) also contained language regarding the payment of fees; however, the PAM is an internal NSF document that is only accessible to NSF personnel.

NSF 15-089 also states that awardees will typically be required to report to NSF annually regarding their actual use of the management fees. Furthermore, the policy specifically identifies types of expenses that are not appropriate uses of management fees awarded. These unallowable expenses include lobbying, alcoholic beverages, tickets to concerts or sporting events, and meals or social activities for non-business purposes or for business purposes that are so extravagant as to constitute entertainment.

IV. AURA MANAGEMENT FEE AWARD HISTORY

Prior to 1998, AURA was exempt from the requirements established by Office of Management and Budget (OMB) Circular A-122⁶ and was therefore not required to prepare an indirect cost submission, instead receiving a fixed fee each year to cover indirect costs incurred under NSF awards. After OMB removed AURA from the list of exempt entities, NSF became responsible for applying the provisions of OMB Circular A-122 to AURA. As a result, NSF determined that it required greater oversight of AURA's expenses when awarding future CAs. OMB Circular A-122 provided NSF with the authority to require that AURA account for its indirect costs, and so when AURA submitted its proposals for new CAs in 2002, NSF requested that AURA calculate and report its indirect costs as part of its proposals.

In calculating its indirect cost rate, AURA determined that it had expenses that could not be covered under OMB Circular A-122. AURA met with NSF Program Officers (POs) to request an annual management fee to cover possible unreimbursable cost items that AURA might encounter in operating its business in the future.

The NSF POs responsible for the CAs issued to Gemini and NOAO/NSO⁷ met in July 2003 to discuss AURA's proposed management fee structure. Specifically, the POs met with AURA personnel to discuss the rationale for the payment of the management fees and, "in some detail," the types of corporate expenses that the fee might cover. Based on this discussion, the POs sent a memorandum to NSF's Division of Grants and Agreements (DGA) that recommended providing AURA with a total management fee of per annum, or per annum for the duration of each CA.

Subsequent to the NSF POs' recommendation, on September 15, 2003, AURA personnel sent DGA a memorandum officially requesting that NSF DGA award management fees under CAs proposed to fund operations at the Gemini and NOAO/NSO facilities. This memorandum clarified that the term "management fee" was not currently intended to, nor would it ever, represent profit. Specifically, AURA explained the principal purpose of the management fees as follows:

⁶ The June 1998 revision of OMB Circular A-122 specifically stated that AURA had been removed from the exemption list because it "either no longer exist[s] or [is] no longer exempted from complying with Circular A-122."

⁷ AURA operated NOAO and NSO under the same CA until January 2009.

AURA management fees are to permit the continuing operation of the corporate office, to provide for the unreimbursable expenses of the corporation, and to enable AURA to use its funds in furtherance of the corporate mission. The management fee is not part of the costs of performing a contract, grant or Cooperative Agreement and hence is neither an "allowable" cost under cost reimbursement regulations nor otherwise subject to "allowable cost" principles.

AURA's memorandum also included a "table of possible unreimbursable cost items and events" that identified potential costs that would require the use of management fees, as follows:

Description	Amount
Directors' discretionary funds for use at the Centers	
Third-party contributions	
Meals and entertainment costs (corporate staff)	
Meals and entertainment costs (professional meetings)	
Special projects (unplanned workshops)	
Insurance premiums (for non-approved risks)	
Exhibits (unplanned- at professional societies)	
Award programs (incentives for performance)	
Shortfalls on projected program expenditures	
Total	

The memorandum concluded that, based on this list of potential expenditures, AURA believed its management fee request of annually (per facility) to be "fair and reasonable." Based on the NSF PO's recommendation and AURA's memorandum, DGA concluded that the cost items requested appeared to be ordinary and necessary for the operation of AURA's facilities and determined that the per year rate appeared reasonable when compared to of potential scenario expenditures (per the table above). It therefore approved management fees of per facility per year for the duration of the two CAs, as requested. After the initial award of the first year, NSF DGA continued to provide AURA with per year on each of the CAs funding operations at NOAO/NSO and Gemini until 2009, when AURA established NSO as a separate facility. After this separation, AURA continued to per year for management fees to operate NOAO; however, in its proposal for a new CA to operate NSO independently, AURA proposed a budget for NSO that included in the base year, escalating to additional management fees of years, for a total of for the original five-year audit period from October 1, 2009, to March 31, 2014. NSF DGA approved this budget, and AURA received the amounts as requested. In 2012, AURA established a CA to fund LSST as a sponsored facility. In its original proposal for the CA, AURA stated that management fees would be negotiated under each cooperative

support agreement (CSA) awarded under the CA. The CSA proposal that AURA submitted to

support the final design phase of LSST requested a total of

in management fees for the

36-month period of performance. NSF DGA approved this budget when awarding the CA; however, it only approved the initial two-year period of performance, designating the final year as an option year. NSF DGA therefore awarded only of the initial proposed period of three years.

V. AURA'S POLICIES AND PROCEDURES FOR CHARGING, ACCOUNTING FOR, AND DRAWING DOWN MANAGEMENT FEES AND RELATED EXPENDITURES

During the audit period, AURA received management fees from NSF under four CAs to help operate the four NSF-funded astronomical facilities: Gemini, NOAO, NSO, and LSST. Each CA awarded the management fees as an approved annual amount; AURA withdrew one-twelfth of this amount each month. AURA accumulated the monthly amounts drawn down on each of the CAs and classified them as unencumbered income in its accounting system. AURA also accumulated fees from NASA contracts, investment income, and membership dues in this unencumbered income account, which it identified in its cost policy statement as AURA Corporate Reserves. The information provided by AURA indicated that it accumulated a total of \$2,440,132 in its unencumbered income pool during our audit period, as follows:

Income Source	FY 2012	FY 2013	FY 2014	Total
NSF Management Fees				
Investment and Interest Income				
NASA Contract Fees ⁹				
Member Dues				
Total				

AURA uses this pool to pay unreimbursable expenses. AURA primarily classifies its unreimbursable expenses based on the source of the expense; however, each site also segregates unreimbursable expenses from those that can be appropriately charged to its CAs. Specifically, AURA designates specific project account codes at each site and at its corporate office to accumulate expenses that are not considered allowable on CAs or within indirect cost pools assigned to each center. AURA pays all costs assigned to these specific project accounts using its unencumbered income. AURA asserts that it accumulated in unreimbursable expenses during our audit period, as follows:

Expense Location	FY 2012	FY 2013	FY 2014	<u>Total</u>
Corporate Office				
Gemini				
NOAO				
NSO				
LSST				
Total Expenses for NSF Facilities				

⁸ AURA's revised budget requests for a 36-month period of performance; however, the narrative description supporting this amount requests per year for management fees, or a total of AURA did not provide an explanation for the additional provide.

⁹ We did not verify AURA's contract fee information with NASA.

STScI		
Total		

AURA's cost policy statement effective during our audit period did not contain any details regarding AURA's treatment of NSF management fees; however, in response to NSF's June 2015 update to the Large Facilities Manual, AURA added an appendix to its cost policy statement that included a policy for "allowable & unallowable cost allocation to management fee funds for AURA's NSF funded centers." This updated policy addresses the purpose of management fees, provides criteria for negotiating management fees, and identifies examples of allowable and unallowable uses of management fee expenses.

VI. AUDIT RESULTS

AURA provided a summary by general ledger account code and fiscal year for in unreimbursable expenses accumulated by its corporate office and the NSF-funded facilities during the audit period; however, it did not provide any general ledger detail to support the STScI expenses, as it claimed that it would not have used funding received as NSF management fees to cover any unreimbursable expenses at STScI, AURA also provided transaction-level detail reports supporting the in costs charged, from which we judgmentally selected and tested a sample of transactions totaling which represented approximately 40 percent of the costs claimed as potential management fee expenses accumulated within AURA's unreimbursable expenses pool. We reviewed supporting documentation to determine the types of expenses that AURA charged to each general ledger account within the unencumbered income pool. When necessary, we requested additional supporting documentation and obtained explanations and justifications from knowledgeable AURA personnel. We provide the summary of expenses from AURA's unencumbered income pool in Appendix A, along with our notes regarding descriptions and examples of the types of expenditures that AURA charged.

Because AURA considered NSF management fees to be unencumbered income, it did not segregate the NSF fees in a manner that would enable us to determine which of the expenses examined were paid using the fees. Specifically, on June 1, 2015, AURA provided NSF with the following explanation of its treatment of unencumbered funding sources, such as NSF management fees:

With regards to the historical information being submitted at this time, it is important to recognize and acknowledge that both NSF and AURA have in the past considered the management fees provided to be discretionary funds. Indeed, this is a formalized Government position regarding fee. With this perspective, AURA saw no need to segregate these funds from other similarly unencumbered income sources such as management fee from NASA contracts, non-U.S. Government contracts, investment income, etc. All were considered fungible, and as such, monies from these various sources were pooled together. Consequently, while we can provide a list of general NSF related expenditures, it is impossible to directly correlate any listed cost item to a specific unencumbered funding source of payment.

As AURA was unable to directly correlate cost items to specific unencumbered funding sources, it may have used the management fees to pay for expenses that were not ordinary and necessary to facilitate the basic operations of its NSF-funded facilities. Specifically, we found that AURA used its unencumbered income pool to pay for expenses that did not appear to be ordinary and necessary to operate its NSF-funded facilities, including:

- in executive bonuses provided to the Director of the Gemini site.¹⁰
 spent on services to repair tennis courts at NOAO's La Serena campus.
 spent on alcohol served at various AURA corporate meetings.
 spent on cocktail receptions on Capitol Hill.
- spent on gas and electric services to power the pool at NOAO's La Serena campus.

While specific NSF guidance regarding the types of expenses that could be charged as management fees did not exist prior to June 2015, expenses incurred for alcohol, social activities, and entertainment would not have been permissible under the current guidance in NSF 15-089 or under AURA's updated management fee policy for NSF-funded centers.

Recommendations

If NSF continues to award management fees in its grants or CAs, we recommend that NSF's Director of the Division of Acquisition and Cooperative Support request that AURA:

- Follow the guidance issued in AURA's updated cost policy statement to ensure that the negotiation, award, and use of management fees are consistent with the criteria established in NSF 15-089.
- 2. Develop administrative and internal controls and processes to ensure that it does not use management fees to pay costs identified as inappropriate per NSF 15-089.
- Develop policies and procedures for reporting to NSF annually regarding its actual use of management fees, including reconciling the amount of fees awarded to the actual fee expenditures.
 - a. In instances in which the amount awarded exceeds total expenditures, AURA should quantify the difference and report its intentions with regard to the excess fees awarded (e.g., to carry the excess amount forward to future years or submit a refund to NSF).
- 4. Propose management fees as a separate line item in its future NSF proposals, rather than including them under a category of allowable cost.

¹⁰ AURA senior management stated that these expenses would be considered financial incentives, which are allowable under NSF's current management fee policy.

5. In all future proposals to NSF, include a complete justification for the need for management fees, including a full disclosure of all of AURA's financial resources and other sources of income available to cover the expenses in question.

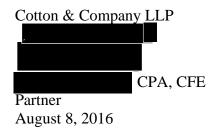
Summary of AURA's Response

AURA stated that it did not track its use of NSF-provided management fees separately from other sources of unencumbered income as no such requirement existed to do so for the period covered by this report. Furthermore, AURA emphasized that it had sufficient funding available from other sources of income within its unencumbered pool to pay for the expenses identified in the report as unallowable under NSF's updated management fee guidance and therefore did not need to use NSF management fees to pay for the unallowable expenses.

With regard to its future use of management fees, AURA stated that, while it will continue to incur expenses deemed unallowable under NSF's new guidance, it has implemented new policies and procedures to ensure that it does not pay for these unallowable expenses using funding received as NSF management fees. Specifically, AURA stated that it has developed internal controls and processes to ensure that it follows the guidance issued in its updated cost policy statement regarding the negotiation, award, and use of management fees. Furthermore, AURA stated that it will abide by NSF's requirements for proposing future management fees, including providing specific justification for its need of management fees and disclosing financial resources and other sources of income.

Auditor's Comments on NSF Management's Response

While NSF guidance regarding the tracking or appropriate use of management fees was not available during the audit period, AURA did not separately account for NSF management fees and therefore cannot support that it did not use these fees to pay for expenses that were neither ordinary nor necessary to facilitate its basic operations.



SUMMARY OF EXPENSES PAID USING THE UNENCUMBERED INCOME POOL

AURA paid the below expenses using its unencumbered income pool, and it is therefore not possible to determine which of the expenses were paid using NSF's management fees; however, per 31 U.S.C. 1352, AURA's lobbying expenditures are excluded from the expenses potentially paid with NSF's management fees because AURA has other sources of income that are sufficient to cover the lobbying costs.

Account Descriptions	FY 2012	FY 2013	FY 2014	Total	Note
000- Expense Type					1
002- Description Not Available					2
041- Relocation Premiums					3
042- Mobility Allowances					4
05B- Scholar Bonus					5
07A- Net Labor Recharge- Intrafund					
07H- Net Labor Recharge-NSF Projects					6
100-Supplies & Materials					7
105- Non-Capital Equip./Furnishing					
119- Periodical Subscriptions					8
121- Consumable Supplies					
149- Meals & Lodging at NOAO Sites					
151- Food Supplies					9
170- PIO Merchandise					
201- Gas Service					10
202- Electric Service					11
220- Telephone Service					
240- Water & Sewer					
250- Postage & Express Mail					
300- Equipment, Repair, Maintenance			_		
420- Building Lease					
500- Domestic Travel- Staff					12
505-Shuttle Transportation					
515- Domestic Travel- Committee					
525- Domestic Travel- Others					
600- Foreign Travel- Staff					13
615- Foreign Travel- Committee	_				
625- Foreign Travel- Others					
650- Foreign Travel- Recruitment					
690- Foreign Travel- PS		_			
700- Miscellaneous Expense					14
725- Professional Services					15
740- Conferences & Meetings/Trainings					16
750- Contracted Services					17
755- NOAO South Services					

APPENDIX A

Account Descriptions	FY 2012	FY 2013	FY 2014	Total	Note
760- Recruitment-Ads, Misc. Exp.					
770- Freight					
780- Facility Support					
800- Capital Equipment					18
825- Equipment Attached to Building					
920- G&A Overhead					19
965- Interest Expense & Analysis Fees					20
999- Miscellaneous Revenue					
Blank					
Internship Program					
Missing GL Data					21
Other Expenses					22
Total Unencumbered Income Pool					
Expenses					

Notes to Appendix A

1. Expense Type (000)

AURA spent on real property expenses incurred by the NSO site to purchase a piece of real property known as "Lot 17," located in Kulamalu Town Center in Kula, Maui County, Hawaii. AURA anticipates building the Remote Operations Building (ROB) for the Daniel K. Inouye Solar Telescope (DKIST) at this location in the future.

While NSF is currently funding construction and operation activities for DKIST in Hawaii, it has not yet approved funding to support building the DKIST ROB. AURA anticipates that the ROB will be essential for effective operations at DKIST and has incurred a variety of expenses for real estate, building permits, and construction designs related to construction of the building. AURA believes that NSF will fund construction of the ROB; however, because appropriations have not yet been approved, AURA was required to pay the preliminary expenses through unencumbered sources.

2. Description Not Available (002)

AURA spent on expenses incurred by the NSO site related to the future DKIST ROB. (See Note 1 for details.) This included for an independent cost review of a schematic design submitted for the future DKIST ROB.

3. Relocation Premiums (041)

AURA provided in executive bonuses related to its Gemini site under this account. This included a moving stipend for a Gemini employee to support expenses related to the employee's relocation to Hawaii.

4. Mobility Allowances (042)

AURA provided in executive bonuses related to its Gemini site under this account, as follows:

- a. AURA provided the Director of the Gemini site with a commuting reimbursement of per year, as his primary residence was located more than 50 miles from Hilo, Hawaii, where the Gemini telescope is located.
- AURA allocated a portion of the tuition reimbursement described in Note 5 to this account.

5. Scholar Bonus (05B)

AURA provided in executive bonuses related to its Gemini site under this account, as follows:

- a. AURA provided the Director of the Gemini Program with up to annually for private school tuition in Hawaii.
- b. AURA allocated a portion of the Gemini Director's commuting allowance described in Note 4.a to this object code.

6. Net Labor Recharge- NSF Projects (07H) AURA allocated to this account for labor recharges related to the time that NSO site staff worked on the DKIST ROB project. (See Note 1 for more information.) Because AURA had funded the DKIST ROB through unencumbered income during the audit period, it recharged all labor expenses incurred for work performed on that project to unencumbered income to ensure that it consistently classified costs related to the DKIST ROB.
7. Supplies & Materials (100) AURA allocated expenses to this account as follows:
a. for supplies and materials for various staff events at the NOAO site. This included for coffee, tea, and associated supplies (e.g., milk and sugar) and for three pieces of artwork to display in the lobby of the main NOAO building.
b. for supplies and materials for AURA's corporate office. This included for capital improvements for NOAO's La Serena campus and other corporate operations in Chile and for groceries used to stock the refrigerator at the corporate office.
for supplies and materials for staff events at the Gemini site. This included for three espresso machines for the Gemini office, for pins provided to guests at the Gemini site, and for flowers for the Gemini site.
d. for supplies and materials for staff events at the NSO site. This included:
i. for various supplies purchased at Wal-Mart stores.
ii. for flowers for the NSO site.
iii. for cooking utensils (e.g., forks, knives, aluminum foil) for an annual Christmas party and to stock the NSO kitchen.
iv. for www.coach.com.
e. for supplies and materials for staff events at the LSST site. This included awards for LSST staff.
8. Periodical Subscriptions (119) AURA's corporate office spent on a subscription to the Foundation Center database. This

AURA's corporate office spent on a subscription to the Foundation Center database. This database provides AURA with information about potential private foundation funding sources. AURA maintains this subscription to seek outside funding for scholarships and other public outreach efforts.

In addition, AURA spent on publishing services provided by Kalmbach Publishing Company for the Gemini site.

9. Food Supplies (151)

AURA allocated expenses to this account as follows:

- a. for food supplies purchased for Gemini staff events, including \$ catering services for a Gemini North holiday party in 2013.
- b. for food supplies purchased for NSO staff events.

- c. for food supplies purchased for NOAO staff events.
- d. for food supplies that AURA's corporate office purchased for corporate operations in Chile.

10. Gas Service (201)

In fiscal year (FY) 2014, AURA spent on gas to run the pool at the NOAO La Serena campus.

11. Electric Service (202)

In FY 2014, AURA spent on electricity to run the pool at the NOAO La Serena campus.

12. Domestic Travel- Staff (500)

AURA allocated expenses to this account as follows:

- a. for domestic travel expenses incurred by the NSO site. This included spent on travel for work related to the anticipated construction of the DKIST ROB. (See Note 1 for more information.)
- b. for domestic travel expenses incurred by the corporate office. This included:
 - i. in meal-related expenses, including alcohol, for one employee during the audit period.
 - ii. for a United Airlines club membership for AURA's executive vice president.
- c. for domestic travel expenses incurred by the Gemini site.
- d. for domestic travel expenses incurred by the NOAO site.

13. Foreign Travel- Staff (600)

AURA spent on foreign travel expenses incurred by its corporate office. This included:

- a. in meal-related expenses, including alcohol, for one employee during the audit period.
- b. for a no-show charge by a Marriott Hotel in Santiago, Chile, when an employee failed to check in because they flew home earlier than anticipated.

14. Miscellaneous Expense (700)

AURA allocated expenses to this account as follows:

- a. for miscellaneous expenses incurred by AURA's corporate office, including:
 - i. in interest expense incurred as a result of AURA failing to pay its electric bill via a wire transfer, as requested by the electric company.
 - ii. incurred by the NOAO La Serena campus for corporate operations in Chile, including:
 - 1. for expenses incurred to hold five-year service award ceremonies for AURA union employees. The expenses included venue rentals, photographers, dinner, and chocolates for employees' wives.

- 2. for an airplane ambulance to transport an ill employee from Argentina to their home in Chile.
- 3. to purchase tickets for AURA corporate employees to attend annual folkloric festivals organized by the union employees at NOAO's La Serena campus.
- iii. for annual fees related to the American Express Platinum cards held by AURA's president, vice president, and other key administrative staff.
- iv. paid to a landlord for rent expenses that an AURA employee failed to pay prior to leaving Chile.
- v. in meal-related expenses, including alcohol, spent by one employee during the audit period.
- vi. paid to Giant and Safeway stores for groceries to stock the refrigerator in AURA's corporate office.
- vii. for a dinner held after a Space Telescope Science Institute Oversight Committee Meeting, including in alcohol expenses.
- b. for miscellaneous expenses incurred by the NSO field site, including:
 - in miscellaneous credit card expenses incurred by NSO administrative personnel. The credit card receipts included expenses for board meeting dinners, including alcohol; holiday party items, including children's toys, iTunes gift cards, movies, and beer; and grocery store purchases.
 - ii. paid to a real estate firm for services to verify that the proposed DKIST building plans complied with neighborhood design guidelines.
- c. in miscellaneous expenses incurred by the NOAO field site, including:
 - in expenses incurred by the LSST Corporation (LSSTC),¹¹ which were invoiced and reimbursed to AURA. LSSTC did not have its own accounting system when it was first established, and AURA therefore paid all of LSSTC's expenses. LSSTC subsequently reimbursed AURA for the expenses on a monthly basis.
 - ii. to sponsor pages in the American Astronomical Society's annual calendars.
 - iii. to purchase coffee services for NOAO site visitors.
 - iv. for the National User Facility Organization, specifically the Argonne National Laboratory, to support AURA's education and outreach efforts, including representation at user exhibits and scientific conferences.
 - v. for various NOAO Excellence Awards.
- d. in miscellaneous expenses incurred by the Gemini field site, including:

¹¹ LSST Corporation (LSSTC) is a not-for-profit corporation founded to initiate the LSST project; it is a separate entity from AURA and the LSST facility that AURA operates.

- i. for funeral and cremation services.
- ii. paid to a landlord for rent expenses that an AURA employee failed to pay prior to leaving Chile.
- iii. for a holiday party held for Gemini employees and their guests. This included for meals served to the 110 Gemini employees that attended the party and for meals served to the non-employee guests at the party.
- iv. to purchase four coffee machines for the Gemini Observatory.
- v. in gifts provided to Gemini employees during an employee Christmas party.
- e. in miscellaneous expenses incurred by the LSST field site, including:
 - to host an annual cocktail reception on Capitol Hill, where AURA employees mingle with Congressional members and their staff to discuss the LSST project.
 - ii. in catering expenses for LSST meetings held at the University of Arizona.

 - iv. in catering expenses for LSST meetings held at Princeton University.

15. Professional Services (725)

AURA allocated expenses to this account as follows:

- a. for professional services for the corporate office. This included:
 - i. for lobbying services provided by Van Scoyoc Associates.
 - ii. for capital improvements to the La Serena campus.
 - iii. in expenses that were inappropriately coded to this account. Specifically, AURA inappropriately charged its FY 2011 contribution to the AURA Retiree Health Benefit Trust to unencumbered income.
- b. for professional services for the NSO site. Specifically, it paid and real estate services related to constructing the DKIST ROB.

16. Conferences & Meetings/Trainings (740)

AURA allocated expenses to this account as follows:

- in conference, training, and meeting expenses incurred by the corporate office, including:
 - i. for alcohol served at AURA board meetings.
 - ii. iii in food and beverage expenses incurred to host annual events on Capitol Hill to discuss the LSST project.
 - iii. for a farewell reception at Bobby Van's Grill.

for alcohol served at AURA's 2013 Annual Meeting. to allow employees' spouses to attend a dinner reception at the "Science with the Hubble Space Telescope IV" event. in alcohol expenses for an AURA Oversight Council for Gemini meeting. vi. for a priority pass to provide airline club access to a corporate employee. in conference, training, and meeting expenses incurred by the LSST site. This b. for banquet and catering expenses incurred for AURA's 2013 included ! Independent Review. in conference, training, and meeting expenses incurred by the NOAO site. This included: spent by NOAO administrative staff on expenses for NOAO staff meetings. spent on NOAO-LSST expenses. ii. in expenses incurred for a conference held at the University of Arizona. d. in conference, training, and meeting expenses incurred by the Gemini site. This paid to the American Astronomical Society. included in conference, training, and meeting expenses incurred by the NSO site. This e. in alcohol and non-employee dinner expenses for a group dinner. 17. Contracted Services (750) AURA allocated expenses to this account as follows: for contracted services provided to the NSO site. Specifically, AURA spent for construction design services for the DKIST ROB. for contracted services provided to the corporate office. This included: i. for lobbying services provided by Van Scoyoc Associates. for capital improvements at NOAO's La Serena campus. This included ii. for services to repair the campus tennis courts. for contracted services provided to the LSST site. Specifically, AURA paid Stanford University in supplemental salary compensation above an employee's typical wage rate. for contracted services provided to the NOAO site. Specifically, AURA spent on funeral services. 18. Capital Equipment (800) **AURA** spent on capital equipment expenses incurred by the corporate office. This included for FY 2013 and FY 2014 depreciation expenses for capital equipment at NOAO's La Serena campus and for the purchase and maintenance of vehicles that AURA rents to visitors at the La Serena campus.

19. G&A Overhead (920) AURA assessed in General & Administrative (G&A) overhead expenses at its NOAO site. AURA applied G&A expenses to NOAO discretionary expenses on a monthly basis for costs that AURA incurred for the LSST Corporation at a rate of percent of a modified total direct cost base.
20. Interest Expense & Analysis Fees (965) AURA spent for currency translation and interest expenses incurred by the corporate office. AURA paid these expenses to a Chilean bank from which it took a loan in an attempt to mitigate the peso exchange risk that occurred when using U.S. dollars to complete capital projects in Chile.
21. Missing GL Data AURA reported a total of in unreimbursable expenditures at its Gemini facility in FY 2012; however, it was unable to provide GL detail to support the total costs incurred.
22. Other Expenses AURA allocated in expenses that were not charged to an account code, but rather were identified as "Other Expenses" incurred by the corporate office. This included spent on lodging expenses incurred for participants of AURA's summer INSPIRE leadership program.

APPENDIX B

APPENDIX B: OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES, SCOPE, AND METHODOLOGY

The NSF OIG Office of Audits engaged Cotton & Company LLP (referred to as "we" in this report) to conduct a performance audit of management fees awarded under agreements between NSF and AURA for the period from October 1, 2011, to September 30, 2014. The overall objective of the audit was to evaluate how AURA tracked and spent management fees. Specifically, we performed this audit to:

- Determine whether the awardee's method of charging and using management fees was in accordance with its proposals, federal regulations, NSF policy, any negotiation memoranda, and its own policies.
- Determine if the awardee used management fees for ordinary and necessary expenses (that were not otherwise reimbursable) to facilitate basic operations.
- Compare the amount of management fees received to the amount of unallowable expenses identified and draw any conclusions that arise from this comparison.

Our work required reliance on computer-processed data obtained from AURA. AURA provided detailed general ledger data for all¹² costs that it charged to its management fee pool during our audit period. This resulted in a total audit universe of in costs claimed through 2,117 transactions charged to the management fee pool.

We assessed the reliability of the data provided by AURA by (1) reviewing NSF award documentation (e.g., grant proposals, awardee correspondence, award amendments) for each NSF award under which AURA claimed costs during our audit period, to verify how much funding NSF provided for management fees, and (2) discussing AURA accounting policies with relevant staff to determine how AURA tracks and draws down management fee expenditures.

Based on our assessment, we found AURA'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 2014 found no reportable instances in which NSF's financial management systems did not substantially comply with applicable requirements.

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

¹² AURA was unable to provide general ledger data to support of Gemini site expenses paid using unencumbered income during the audit period.

To evaluate whether AURA's use of management fees was in accordance with the intentions outlined in its NSF proposals, we conducted interviews with relevant NSF program officers, NSF grant officers, and AURA personnel, in which we requested all documentation relevant to the negotiation and award of management fees at AURA. As a result of this research, we gained insight into NSF and AURA's roles in the negotiation process, including both NSF and AURA's understandings of the types of expenses these fees were awarded to cover, as well as the types of reviews that each entity performed to examine how AURA was using these fees.

After determining the types of expenses that AURA had included in its management fee proposals, we evaluated the types of expenses that AURA had actually paid using these fees by judgmentally selecting and testing a sample of expense transactions that AURA had paid using unencumbered income during the audit period.

We reviewed the supporting documentation provided to determine if we obtained sufficient, appropriate evidence to support the types of expenses that AURA charged to each general ledger account within the management fee pool. When necessary, we requested additional supporting documentation, reviewed the documentation, and obtained explanations and justifications from knowledgeable AURA personnel to determine whether the costs charged were necessary to facilitate basic operations at AURA, and whether the costs were charged in accordance with its proposals, federal regulations, NSF policy, negotiation memoranda, and its own policies.

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.

APPENDIX C: AURA MANAGEMENT'S RESPONSE



1331 Pennsylvania Ave NW Suite 1475 Washington DC 20004 Tel: (202) 204-1371

Association of Universities for Research in Astronomy

July 22, 2016

Cotton & Company 635 Slaters Lane, 4th Floor Alexandria, VA 22314

Attention:

Subject:

Performance Audit of Management Fees awarded to AURA on National Science

Foundation Cooperative Agreements for the Period October 1, 2011 to

September 30, 2014

Dear

Thank you for the opportunity to provide a response to the subject report. While our feedback will focus primarily on the recommendations Cotton & Company has documented in the conclusion of that document, we are also providing a few introductory remarks below that we believe will help provide clarity to readers of your report.

The report executive summary states "...that AURA did not track its use of NSF-provided management fees...". A more explanatory statement would be that AURA did not track it use of NSF-provided management fees *separately* from other sources of unencumbered income as no such requirement existed to do so for the period covered by this report. And it should be emphasized that while these unencumbered income sources were "pooled", there was <u>not</u> a mingling of these monies with the funds provided in our Cooperative Agreements for payment of "allowable costs" as defined in the OMB Uniform Guidance. Unencumbered income source funding and expensing have always formally differentiated within AURA's accounting structure from allowable cost funding and expensing. They have been, and continue to be, tracked separately from one another.

The executive summary further indicates that NSF management fee *could* have been used to pay for expenses that were not ordinary or necessary for the operations of AURA. The lack of a definitive statement on NSF management fee utilization is a function of two factors: 1) the pooling of funds as noted above, and 2) the availability of sufficient funds (as shown on page 6 of the report) from other income sources to pay for those expenses that have now been

deemed by the NSF as unnecessary for operations. We are highlighting the availability of other sources of monies to document that the payment of "unnecessary" expenses did not require utilization of NSF management fee, and to also note that the segregation of funds that is now occurring (and is further discussed in our responses to the Cotton recommendations below) will preclude any confusion on this matter in the future.

AURA will rigorously and strictly abide by the NSF guidelines on inappropriate uses of Foundation management fee. However, we wish to respectfully note our belief that it is still important for AURA to engage in several of the activities mentioned in that guidance in order to ensure the successful functioning of our organization.

Given our perspective on their importance, we will continue to incur costs for items such as social courtesies that may include alcohol, the maintenance of sports and recreational infrastructure in Chile in support of the spirit and intent of related union collective bargaining agreement terms, and staff morale functions that do not fit within OMB Guidance. We will, of course, ensure that these expenses are paid through appropriate sources other than NSF Cooperative Agreement management fees, and that our accounting records clearly documents the utilization of these other sources.

With regards to the recommendations in your report, please note the following responses:

 Follow the guidance issued in AURA's updated cost policy statement to ensure that the negotiation, award, and uses of management fees are consistent with the criteria established in NSF 15-089.

We are following this guidance through implementation of AURA's NSF Management Fee Policy. This Policy has been reviewed by the NSF, and is an attachment to our Cost Policy Statement. AURA's staff has been well-trained in the provisions and restrictions of this policy.

 Develop administrative and internal controls and processes to ensure that it does not use management fees to pay costs identified as inappropriate per NSF 15-089

AURA has developed the appropriate internal controls and processes. Actions have included:

- Developing a very well defined chart of accounts which specifically identifies and tracks cost categories and differentiates the use of the Management fee funding,
- Assuring that all applicable policies and procedures clearly define and segregate the use of NSF management fee.
- Ensuring these policies and procedures are posted on administrative websites that are easily accessible by all AURA staff,
- Requiring any staff person submitting a requisition to identify the appropriate classification of accounts (i.e. allowable cost, NSF management fee, or unencumbered income) and ensuring that the resources and training exist to assist that staff person,

- Requiring review by the AURA administrative staff of any charge not assignable to a
 Cooperative Agreement or Contract, to ensure that this cost is either correctly charged to
 Management Fee or otherwise appropriately assigned to unencumbered income.
 - 3) Develop policies and procedures for reporting to NSF annually regarding its actual use of management fees, including a reconciliation of the amount of the fees provided to actual management fee expenditures.

Procedures are in place to meet the new NSF's reporting requirements for management fee, including those related to expenditure history and reconciliations. As noted above, AURA's accounting system general ledger is designed to carefully identify the source and use of income and expenses, including those associated with NSF management fee.

4) Propose management fees as a separate line item in its future NSF proposals rather than including them under a category of allowable costs.

AURA will abide by the NSF's requirements for proposing management fee. Such guidance currently requires that management fee be proposed independently from construction and operation allowable costs.

5) In all future proposals to NSF, include a complete justification for the need for management fees, including a full disclosure of all of AURA's financial resources and other sources of income available to cover the expenses in question.

As part of our submittals in response to the NSF's new requirements for management fee proposals, AURA will be providing specific justification for the need for management fees, and disclosing financial resources and other sources of income.

Thank you again for the opportunity to provide these responses to your report.

Sincerely,



Vice President for Operations/Chief of Staff