



**National Science Foundation**

4201 Wilson Boulevard  
Arlington, Virginia 22230

Office of Inspector General

MEMORANDUM

DATE: March 31, 2011

TO: Jeffery Lupis, Division Director  
Division of Acquisition and Cooperative Support (DACCS)

FROM: Dr. Brett M. Baker /s/  
Assistant Inspector General for Audit

SUBJECT: NSF OIG Audit Report No. OIG-11-1-010, Audit of Association of Universities for Research in Astronomy, Inc.'s/National Optical Astronomy Observatories' Accounting System and Proposal Estimating Practices

We contracted with the Defense Contract Audit Agency (DCAA) to perform an audit of Association of Universities for Research in Astronomy, Inc.'s (AURA)/National Optical Astronomy Observatories' (NOAO) accounting system and proposal estimating practices. Included in DCAA's accounting system audit was a review of AURA/NOAO's purchasing and equipment management practices.

The objective of this audit was to assess the adequacy of AURA/NOAO's accounting system and processes for estimating costs to determine if the design of the system and processes are acceptable for the award of a cooperative agreement; and if the accounting system provides financial information required to support NSF's practice to fund the awardee in advance of expenditures. The criteria that DCAA used in making its evaluation are set forth in 2 CFR Part 215 (OMB Circular A-110) and in Standard Form 1408NP, Preaward Survey for Non-Profit Organization's Accounting System. The *Payment* clause at 2 CFR 215.22 requires that for recipients to be paid in advance of expenditures, recipients must meet the standards for fund control and accountability as established in Section 215.21. Section 215.21, *Standards for financial management systems*, includes requirements that recipients' financial management systems provide for records that identify the source and application of funds; effective control and accountability for all funds, property and other assets; and written procedures for determining the reasonableness, allocability and allowability of costs. Additional criteria in DCAA's audit were Section 1512 of the American Recovery and Reinvestment Act (ARRA) of 2009, and Office of Management and Budget (OMB) Memorandum M-09-21, *Implementing Guidance*, for ARRA reporting requirements; and the NSF Grant Policy Manual.

Attached to this transmittal memorandum is DCAA's final audit report on AURA/NOAO's accounting system and estimating practices.

## Background

Our office requested proposal, accounting system and estimating practices audits of AURA when we became aware of AURA's \$298 million Cost Book Proposal for the Advanced Technology Solar Telescope (ATST) and that NSF had not requested these audits. All AURA funding comes from the federal government (NSF and NASA), and NSF is currently the cognizant federal agency for AURA.<sup>1</sup> NOAO is a division of AURA that is recognized by NSF as a Federally Funded Research and Development Center (FFRDC). NOAO is responsible for the accounting of 27 NSF cooperative agreements and grants with authorized NSF funds totaling \$765 million.<sup>2</sup> Included in this amount are subawards/subcontracts of about [REDACTED] for construction of the ATST. We requested that DCAA audit AURA/NOAO's accounting system and estimating practices in conjunction with DCAA's audit of AURA's \$298 million Cost Book Proposal for the ATST. As for the ATST proposal audit, we recently provided NSF with DCAA's inadequacy memorandum and our accompanying recommendations.<sup>3</sup>

### **DCAA Concluded that AURA/NOAO's Accounting System and Estimating Practices are Unacceptable for Award of a Cooperative Agreement and for Advance Payments**

DCAA found that the awardee's design of the accounting system and estimating practices are not adequate to merit the receipt of a cooperative agreement. DCAA's examination disclosed eight significant deficiencies in AURA/NOAO's accounting system and estimating practices that could result in misstated costs. As a result of the deficiencies, the audit stated (in Appendix 1 to the audit report) that AURA/NOAO's accounting system does not provide financial information required to support NSF's practice to fund the awardee in advance of expenditures. To illustrate, AURA/NOAO's financial management systems did not provide for: records that identify the source and application of funds; effective control and accountability for all funds, property and other assets; and written procedures for determining the reasonableness, allocability and allowability of costs. DCAA noted that AURA/NOAO generally agreed with the audit findings and is taking aggressive action to correct all identified deficiencies, except the one relating to identifying the receipt of funds by project and by ARRA funds (condition #2 below).

The eight significant deficiencies identified in the audit are summarized below.

#### 1. Policies and Procedures for Determining Costs

AURA/NOAO currently does not have written policies and procedures for determining the reasonableness, allocability and allowability of costs in accordance with 2 CFR Part 215.21, *Standards for financial management systems*. Without adequate procedures to properly record

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<sup>1</sup> NSF assumed cognizance of AURA from NASA in 2009 because of the dollar significance of the ATST project. Based on conversation with DCAA, DCAA completed AURA's indirect rate audits through 2009 at the request of NASA, but has suspended indirect rate audits starting in 2010 because they have not received a request for audit from NSF.

<sup>2</sup> Source: Federal Financial Report for the quarter ending 12/31/2010.

<sup>3</sup> Reference NSF OIG Audit Report No. OIG -11-1-001, dated January 5, 2011.

costs and to screen for unallowable costs, costs recorded may include costs that are unreasonable, unallowable and are not consistent with the conditions of the award.

## 2. Identification of Receipt of Funds

AURA/NOAO does not identify the receipt of funds by grant or as ARRA funds in accordance with 2 CFR Part 215.21, *Standards for Financial Management Systems*. When funds are received by AURA/NOAO an entry is recorded in the general ledger as “NSF Cash”. There is no identification of the specific project or of the amounts received as ARRA funds. This does not constitute adequate identification or application of the source of funds. Failure to identify the receipt of funds by project or as ARRA funds could result in expenditures exceeding budgeted amounts for projects, utilizing funds received for one project on a separate project and failure to report ARRA funds in accordance with OMB reporting requirements.

## 3. Cost Sharing/Matching

AURA/NOAO does not maintain policies and procedures related to cost sharing/matching to address the requirements in 2 CFR Part 215.23, *Cost sharing or matching*. While AURA/NOAO’s current cooperative agreements may not include cost sharing provisions, we noted that these provisions were requirements in at least one NSF grant with AURA/NOAO.<sup>4</sup> DCAA stated that the awardee’s system should include cost sharing/matching policies and procedures to ensure funds (ARRA and non-ARRA) provided for by an award are accounted for consistent with requirements if cost sharing agreements are entered into.

## 4. Participant Support Costs

AURA/NOAO does not maintain policies and procedures related to participant support costs to address the requirements in the NSF Grant Policy Manual, Section 618, *Participant Support Costs*. Paragraph 618.1.b. states, “Funds provided for participant support may not be used by grantees for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer. Therefore, awardee organizations must account for participant support costs separately.” AURA/NOAO has no written policies or procedures to ensure participant support costs are separately accounted for in its accounting system. Segregation of these costs is required by the Grant Policy Manual and is required to ensure appropriate treatment of these costs.

## 5. Subrecipient Monitoring

AURA/NOAO currently does not have written policies and procedures to (i) include processes to monitor its subrecipients in accordance with 2 CFR 215.47, *Contract Administration*, or (2) ensure compliance with the Buy American requirements of the ARRA in accordance with OMB reporting requirements for ARRA funds. For example, this places the subawards/subcontracts totaling about \$100 million for construction of the ATST at risk.

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<sup>4</sup> Grant ESI-0307949, *Hands on Optics: Making an Impact with Light*, a collaborative grant listed in AURA’s A-133 audit report for year ended September 30, 2009

In examining purchase order files (also see condition 7 below), DCAA found AURA/NOAO was not consistently monitoring subrecipients' submissions and was not consistently documenting review of subrecipients' performance. Failure to adequately monitor subrecipients could result in (i) projects not being completed in accordance with terms of the agreement, (ii) duplicate or incomplete reporting of activities funded by ARRA funds, and (iii) non-compliance with the ARRA Buy-American requirements.

#### 6. Estimating Policies and Procedures

AURA/NOAO does not have documented estimating policies and procedures or an effective process for preparing adequate proposals. The amount of funds obligated in NSF cooperative agreements is based on the awardee's submission of a cost estimate. The adequacy of the cost estimate directly impacts the recipient's ability to adequately monitor and implement financial controls outlined in the NSF Grant Policy Manual and in 2 CFR Section 215. Accordingly, AURA/NOAO's failure to establish estimating policies and procedures directly impacts the recipient's ability to generate an adequate price estimate for a cooperative agreement. DCAA could not complete the audit of AURA's \$298 million proposal for the ATST because the auditors found several inadequacies in the proposal.

#### 7. Purchase Order (PO) Files not Adequate

AURA/NOAO does not have adequate documentation in its PO files to confirm compliance with 2 CFR Parts 215.40 through 215.48, *Procurement Standards*. DCAA selected a judgmental sample of nine PO files from the June 14, 2010 expense listings for National Solar Observatory accounts to determine compliance with the requirements of the Procurement Standards and found files that did not have an adequate cost/price analysis or a signed sole source justification. In addition, AURA/NOAO was not consistently documenting its review of subawardees.

In addition to the deficiencies noted above, DCAA found a payment that was posted incorrectly on the ATST expense report used in selecting PO files. DCAA informed us that the amount of the payment posted to the incorrect account was [REDACTED]<sup>5</sup> and that AURA/NOAO corrected this error during the audit after it was pointed to them. However, internal controls were not sufficient to prevent an error of this magnitude from occurring.

The deficiencies noted in the PO files could result in inflated subrecipient costs, non-compliance with ARRA reporting requirements, noncompliance with the terms of the agreement, and unreliable expense reports.

#### 8. Equipment Files

AURA/NOAO does not have adequate documentation in its Capital Equipment files as required by 2 CFR Part 215.34, *Equipment*. DCAA selected a random sample of eight equipment files for

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<sup>5</sup> According to DCAA, it appeared that the payment was posted to an incorrect account within the ATST project.

assets located in Tucson, Arizona from the awardee's equipment listing report. DCAA reviewed the selected items for compliance and found deficiencies in five of the eight files (62 percent) reviewed. Either the files did not specify the source award number; reflect that the asset had been dispositioned; contained an inaccurate serial number; did not reconcile to the asset amount in the equipment listing report; or the source award number was not found in supporting documents.

In addition, DCAA found that the dollar amount from the Capital Equipment listing report did not reconcile to the Trial Balance amount for the Capital Equipment account. DCAA informed us that the difference for assets located in Tucson totaled [REDACTED] [REDACTED]<sup>6</sup> and that AURA/NOAO did not provide a reconciliation to explain this difference. We noted that the latest A-133 report also cited as a significant deficiency that the property and equipment listing provided to NSF did not include a complete accounting of property listed in the trial balance and recommended that management reconcile the equipment listing report to the general ledger.

Failure to keep accurate equipment records and to reconcile the equipment report to the accounting records is not compliant with the requirements of 2 CFR Part 215.34 and could result in an incorrect account balance for assets.

#### Additional finding: Control over Contingency Funds

In addition to the eight deficiencies cited above, DCAA found that there were not any controls or technical barriers in place to prevent the awardee from drawing down contingency money funded by NSF and spending it without NSF approval. This is significant because DCAA stated that "contingencies" are unallowable costs<sup>7</sup> in its inadequacy memorandum regarding AURA's cost book proposal for the ATST project, which included "contingencies" of approximately 21 percent of the \$298 million total proposed costs (\$62 million). These proposed contingency costs were in addition to an undetermined amount of contingency escalation built into AURA's proposed material estimates. The amount of contingency costs included in AURA's proposal is a major reason why DCAA concluded that the ATST proposal was unacceptable for audit. It is also why we previously recommended (in our transmittal memo to the ATST proposal audit) that NSF internally control, and not award, contingency funds until a demonstrated need arises predicated on known events.

#### **AURA/NOAO's Response and DCAA's Comments**

In its response to DCAA's inadequacy memorandum dated September 17, 2010, AURA/NOAO generally concurred with DCAA's recommendations, except for the recommendation on identification of receipt of funds by grant and by ARRA funds (condition #2 above).<sup>8</sup> As for the

<sup>6</sup> The Capital Equipment listing report totaled [REDACTED] and the Trial Balance showed a Capital Equipment total of [REDACTED] for total difference of [REDACTED]

<sup>7</sup> Reference 2 CFR Part 230, Appendix B, Paragraph 9, *Contingency Provisions*, which states, "Contributions to a contingency reserve or any similar provision made for events the occurrence of which cannot be foretold with certainty as to time, intensity, or with assurance of their happening, are unallowable."

<sup>8</sup> See AURA's attached response letter dated October 29, 2010 for its response to DCAA's Statement of Conditions and Recommendations, including attachments not included in DCAA's audit report.

non-concurred recommendation, AURA/NOAO stated that NSF does not require that funds be drawn down by specific award, only that the recipient be able to reconcile cash disbursements at the end of each quarter. DCAA stated that it does not consider AURA/NAO's reconciliation of cash disbursements to costs incurred on a quarterly basis to be sufficient to comply with 2 CFR Part 215, and continued to recommend that AURA/NOAO establish procedures to identify the receipt of NSF funds by grant and to identify ARRA funds.

As for the concurred-upon recommendations, AURA/NOAO provided to DCAA its revised policies regarding (i) reasonableness, allocability and allowability of costs; (ii) cost sharing/matching; (iii) participant support costs, (iv) subrecipient monitoring, and (v) procurement policies. The awardee also stated that it is developing estimating policies and procedures and is re-evaluating its review processes over equipment files. As for AURA/NOAO's revised written policies and procedures and policies that are currently being developed or re-evaluated, DCAA recommends that further review be performed upon implementation to determine their adequacy and if they are being consistently followed.

### **Recommendations**

We recommend that the NSF Director of the Division of Acquisition and Cooperative Support:

1. Require that AURA/NOAO take immediate action to correct all the deficiencies cited by DCAA, including identifying its receipt of funds by project, which is the recommendation that AURA/NOAO has not yet agreed to implement. To ensure that all of DCAA's recommendations are timely implemented, NSF should further require that AURA/NOAO submit a corrective action plan with implementation milestones.
  2. Consider withdrawing AURA/NOAO's ability to draw down advance payments and requiring that AURA/NOAO request reimbursement payments unless and until AURA/NOAO demonstrates that it maintains an adequate accounting system that meets the standards for fund control and accountability as established in 2 CFR 215.21 and for ARRA reporting as established in OMB Memorandum M-09-21. Included in an adequate accounting system is proper identification of receipt of funds by project, such that ARRA and non-ARRA funds are accumulated and segregated by project from the point of receipt throughout the accounting and reporting process.
  3. Request and arrange for DCAA to timely perform a follow-up audit of AURA/NOAO's accounting system and estimating practices to ensure all deficiencies cited in DCAA's audit report are corrected; or request and arrange for DCAA to perform a post-award accounting system audit which includes comprehensive steps to gain a detailed understanding of AURA/NOAO's accounting system (e.g., tracing costs billed to source documentation) sufficient to render an opinion on the adequacy of the system. DCAA generally recommends a post-award accounting system audit when a follow-up audit to a pre-award evaluation is recommended.
  4. Refrain from making new or incremental NSF awards to AURA/NOAO until NSF has obtained a current audit report from DCAA affirming that AURA/NOAO has an adequate accounting system in place and written estimating policies and procedures designed to
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generate current, accurate and complete cost estimates/proposals. For contingency costs, this means only including in the proposal a separate list of contingency costs that NSF will not fund until a subsequent proposal is submitted supported by known project requirements and current cost data.

In accordance with OMB Circular A-50, please coordinate with our office during the six-month resolution period to develop a mutually agreeable resolution of the audit findings. Also, the findings should not be closed until NSF determines that the recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

We are providing a copy of DCAA's audit report to the ATST Program Director and the Director of Large Facilities Projects. The responsibility for audit resolution rests with DACS. Accordingly, we ask that no action be taken concerning DCAA's audit report findings without first consulting DACS at (703) 292-8242.

### **OIG Oversight of Audit**

To fulfill our responsibilities under Government Auditing Standards, the Office of Inspector General:

- Reviewed DCAA'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 DCAA and NSF officials as necessary to discuss audit progress, findings and recommendations;
- Reviewed the audit report prepared by DCAA to ensure compliance with Government Auditing Standards and Office of Management and Budget Circulars; and
- Coordinated issuance of the DCAA audit report.

DCAA is responsible for the attached audit report and the conclusions expressed in it.

We thank you and your staff for the assistance extended to us during the audit. If you have any questions, please contact Jannifer Jenkins at (703) 292-4996 or David Willems at (703) 292-4979.

#### Attachments:

1. DCAA Audit Report No. 4301-2010B17740006, *Independent Evaluation of National Optical Astronomy Observatories' Preaward Accounting System*, dated January 9, 2011
2. AURA/NOAO *Response to DCAA Statement of Conditions and Recommendation*, dated October 29, 2010.

cc: Martha Rubenstein, CFO and Director BFA  
Mary Santonastasso, Division Director, DIAS  
[REDACTED]  
Mark Coles, Director Large Facilities Projects, BFA/OAD  
Clifford Gabriel, Senior Advisor, OD

# Defense Contract Audit Agency



United States  
Department of Defense



January 09, 2011

Independent Evaluation of National Optical Astronomy  
Observatories' Preaward Accounting System

Report No. 4301-2010B17740006  
(REVISED)

## RESTRICTIONS:

1.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## DEFENSE CONTRACT AUDIT AGENCY

**PREPARED FOR:** Audit Manager  
National Science Foundation  
Office of the Inspector General  
ATTN: Mr. David Willems  
4201 Wilson Boulevard  
Arlington, VA 22230

**PREPARED BY:** DCAA Arizona Branch Office  
2741 W. Southern Avenue, Suite 14  
Tempe, AZ 85282-4242  
Telephone No. ( [REDACTED]  
FAX No. [REDACTED]  
E-mail Address [REDACTED]

**SUBJECT:** Report on Preaward Survey of Prospective Awardee Accounting System and Estimating Practices

**REFERENCES:** CSA No. AST-0415302  
Relevant Dates: (See Page 16)

**CONTRACTOR:** National Optical Astronomy Observatories  
950 N. Cherry Avenue  
Tucson, AZ 85719

	<u>Page</u>
<b>CONTENTS:</b> Subject of Audit	1
Executive Summary	1
Scope of Audit	2
Results of Audit	3
Contractor Organization and Systems	15
DCAA Personnel and Report Authorization	16
Audit Report Distribution	17
Appendix 1 - Standard Form 1408	18
Appendix 2 - Awardee's Reaction	20



## **SUBJECT OF AUDIT**

As you requested on February 19, 2010, we examined the National Optical Astronomy Observatories' (NOAO) accounting system and estimating practices to determine whether the design of the system and practices are acceptable for the award of a Cooperative Agreement, in accordance with the criteria set forth in 2 CFR Part 215 (OMB Circular A-110), Standard Form 1408NP, Preaward Survey for Non-Profit Organization's Accounting System. By submitting a cost proposal to the Government, NOAO asserts that its accounting system and estimating practices are acceptable to perform the prospective cooperative agreement in accordance with the above criteria.

NOAO is responsible for establishing and maintaining an acceptable accounting system for accumulating costs under prospective Government awards and establishing acceptable estimating practices. Our responsibility is to express an opinion on the acceptability of the design of the accounting system and estimating practices for the award of a prospective cooperative agreement based on our examination.

## **EXECUTIVE SUMMARY**

The awardee's design of the accounting system and estimating practices are not acceptable for the award of a prospective cooperative agreement. Our examination disclosed eight significant deficiencies that are considered to be material weaknesses in NOAO's accounting system and estimating practices that could result in misstated costs. NOAO generally agrees and is taking aggressive actions to correct all identified deficiencies except those relating to identifying the receipt of funds by project.

## **SIGNIFICANT ISSUES**

- NOAO currently does not have written policies and procedures for determining the reasonableness, allocability and allowability of costs in accordance with the provisions of the applicable Federal cost principles and the terms and conditions of the award;
- NOAO does not identify the receipt of funds by project and does not distinguish between ARRA funds as required by 2 CFR Part 215.21 and Part 215.22(i)(1);
- NOAO does not maintain policies and procedures related to cost sharing/matching;
- NOAO does not maintain policies and procedures related to participant support costs;
- NOAO currently does not have written policies and procedures to (i) include processes to monitor this MREFC (Major Research Equipment and Facilities Construction) project's sub-awardees, and (2) ensure compliance with the Buy American requirements of the ARRA;
- NOAO does not have documented Estimating Policies and Procedures or an effective process for preparing adequate proposals.



**Audit Report No. 4301-2010B17740006– (Revised)**

- NOAO currently does not have adequate documentation in its PO files; and
- NOAO currently does not have adequate documentation in its Capital Equipment files, and the dollar amount from its listing of Capital Equipment does not reconcile to the Trial Balance amount for the Capital Equipment account.

**SCOPE OF AUDIT**

We conducted our examination in accordance with generally accepted government auditing standards, except DCAA does not currently have an external opinion on its quality control system as required by GAGAS 3.55. The most recent external quality control review opinion expired on August 26, 2009. A review of DCAA’s quality control system is currently being performed. GAGAS require that we plan and perform the examination to obtain reasonable assurance about whether the data and records examined are free of material misstatement. An examination includes:

- obtaining an understanding of internal control for accumulating costs under prospective Government contracts and agreements;
- examining, on a test basis, evidence supporting the amounts and disclosures in the data and records evaluated;
- assessing the accounting principles used and significant estimates made by the awardee; and
- evaluating the overall data and records presentation.

We evaluated the accounting system and estimating practices using the applicable requirements contained in:

- 2 CFR Part 215 (OMB Circular A-110), “Uniform administrative requirements for grants and agreements with institutions of higher education, hospitals, and other non-profit organizations,” Federal Acquisition Regulation (FAR); and
- National Science Foundation Grant Policy Manual.

Our examination was performed from April 27, 2010 to September 17, 2010.

We believe that our examination provides a reasonable basis for our opinion.

Our examination did not include tests to determine whether internal control is in operation or operating effectively. Because of inherent limitations in any internal control, misstatements due to error or fraud may occur and not be detected. Also, accounting system internal control and estimating practices are subject to the risk that the design of the internal control and practices may become unacceptable because of changes in conditions.

## **RESULTS OF AUDIT**

In our opinion, the design of the accounting system and estimating practices are not, in all material respects, considered acceptable for award of a prospective award in accordance with the criteria contained in 2 CFR Part 215. The accounting system is in operation. As requested, we have completed a Standard Form 1408NP, *Preaward Survey for Non-Profit Organization's Accounting System*.

Our examination disclosed certain significant deficiencies that are considered to be material weaknesses in the design of the accounting system and estimating practices. In our judgment, these deficiencies could adversely affect the organization's ability to initiate, authorize, record, process, estimate and/or report costs in a manner that is consistent with applicable Government laws and regulations. These conditions are detailed in the "Statement of Conditions and Recommendations" on page 4 and summarized below. Also refer to comments contained in the SF 1408.

Our review of NOAO's accounting system and estimating practices disclosed the following conditions:

- The awardee currently does not have written policies and procedures regarding (i) reasonableness, allocability and allowability of costs; (ii) cost sharing/matching; (iii) participant support costs; (iv) subrecipient monitoring; and (v) estimating processes.
- The awardee does not identify the receipt of funds by project nor as American Recovery and Reinvestment Act (ARRA) funds.
- The awardee does not maintain adequate Purchase Order (PO) files.
- The awardee does not have adequate documentation in its Capital Equipment files, and the dollar amount from its listing of Capital Equipment does not reconcile to the Trial Balance amount for the Capital Equipment account.

In addition to the above conditions, your request for audit asked us to ensure that there are sufficient controls or technical barriers in place to prevent the awardee from drawing down contingency money funded by NSF and spending it without advance NSF approval. We did not find any controls or technical barriers related to preventing the awardee from drawing down contingency money and spending it without government (NSF) approval.

Our examination was limited to determining whether NOAO's accounting system and estimating processes are adequate for estimating, accumulating and billing costs under Government agreements. We did not perform a comprehensive examination of the contractor's overall accounting system and estimating practices and related internal controls. Accordingly, we express no opinion on NOAO's system of internal control taken as a whole.

We discussed the results of our examination with [REDACTED] in an exit conference held on September 17, 2010. We provided a draft copy of the



**STATEMENT OF CONDITION AND RECOMMENDATION**

1. Policies and Procedures for Determining Costs

a. Condition

NOAO currently does not have written policies and procedures for determining the reasonableness, allocability and allowability of costs in accordance with 2 CFR Part 215.21, “Standards for financial management systems.” Paragraph (b)(6) states “Recipients’ financial management systems shall provide for the following...(6) Written procedures for determining the reasonableness, allocability and allowability of costs in accordance with the provisions of the applicable Federal cost principles and the terms and conditions of the award”

Without adequate procedures to properly record costs and to screen for unallowable costs, costs recorded may include costs that are unreasonable, unallowable and are not consistent with the conditions of the award.

b. Recommendation

We recommend that NOAO establish policies and procedures for determining the reasonableness, allocability and allowability of costs in accordance with 2 CFR Part 215.21 (6), “Standards for financial management systems,” to allow for proper recording of Project costs to cost objectives.

c. Awardee’s Reaction

In its written response dated October 29, 2010, [REDACTED] states that policies for determining reasonableness, allocability and allowability of costs are set forth in AURA Procurement Policies, Section I, effective September 1, 2010. The applicable paragraph of Section I appears on page 5, entitled “Compliance with 2 CFR Part 230: OMB A122- Cost Principles for Non-Profit Organizations” which states that “All AURA Centers will comply with 2 CFR Part 230, “Cost Principles for Non-Profit Organizations.” This regulation restricts what types of items AURA is allowed to purchase. All procurements using federal funds must comply with the allowable principles contained in 2 CFR Part 230.”

d. Auditor’s Response

The awardee concurs with our recommendation. We reviewed the applicable section of AURA’s Procurement Guidelines Manual Revision August 2010 regarding “Compliance with 2 CFR Part 230: OMB A122 - Cost Principles for Non-Profit Organizations.” This should meet the requirements of an adequate accounting system for accumulating and billing costs under Government contracts.

2. Identification of Receipt of Funds

a. Condition

NOAO does not identify the receipt of funds by project nor as American Recovery and Reinvestment Act (ARRA) funds as required by 2 CFR Part 215.21, “Standards for financial management systems.” Paragraph (b)(2) states “Recipients’ financial management systems shall provide for the following...(2) Records that identify adequately the source and application of funds for federally-sponsored activities. These records shall contain information pertaining to Federal awards, authorizations, obligations, unobligated balances, assets, outlays, income and interest.” When funds are received by NOAO an entry is recorded in the general ledger as “NSF Cash”. There is no identification of the specific project nor does NOAO specifically identify the amounts received as ARRA funds. In our opinion, this does not constitute adequate identification or application of the source of funds. Failure to identify the receipt of funds by project or as ARRA funds could result in expenditures exceeding budgeted amounts for projects, utilizing funds received for one project on a separate project and failure to report ARRA funds in accordance with Office of Management and Budget (OMB) Memorandum M-09-21 dated June 22, 2009.

b. Recommendation

We recommend that NOAO establish procedures to identify the receipt of National Science Foundation (NSF) funds by grant and to identify ARRA funds in accordance with 2 CFR Parts 215.21, “Standards for financial management systems,” and 215.22, “Payment.”

c. Awardee’s Reaction

In its written response dated October 29, 2010, NOAO states that it’s accounting system; policies and procedures have been in place and virtually unchanged since 1996. During that time NOAO has undergone audits from outside agencies; Clifton Gunderson, KPMG and Coopers and Lybrand; and reviews by NSF.

NOAO maintains a single bank account in which all funds drawn from NSF are deposited. NOAO draws cash from NSF based upon total estimated cash requirements for all entities for which NOAO provides Business Services. These entities include NSO, WIYN, SOAR, LSSTC and Gemini. NSF does not require that funds be drawn by specific Award, only that the recipient be able to reconcile cash disbursements at the end of each quarter.

d. Auditor’s Response

We do not consider NOAO’s reconciliation of cash disbursements to costs incurred on a quarterly basis to be acceptable. We continue to recommend that NOAO establish procedures to identify the receipt of National Science Foundation (NSF) funds by grant and to identify ARRA

**Audit Report No. 4301-2010B17740006– (Revised)**

funds in accordance with 2 CFR Parts 215.21, “Standards for financial management systems,” and 215.22, “Payment.”

3. Cost Sharing/Matching

a. Condition

NOAO does not maintain policies and procedures related to cost sharing/matching to address the requirements in 2 CFR Part 215.23, “Cost sharing or matching.” 2 CFR Part 215.23 provides the criteria for measuring the recipients cost sharing or matching amounts. We requested NOAO identify its established procedures for cost sharing/matching. In its response NOAO indicated that the current ATST award did not include a requirement for cost sharing/matching. Accordingly, they have not established policies or procedures addressing these requirements. We confirmed this statement through a review of AURA Financial Policy, Purchasing Policies and Procedures Manual and NOAO/NSO Cost Policy Statement. While the current ATST award may not include cost sharing provisions, the awardee’s system should include cost sharing/matching policies and procedures to ensure NSF & ARRA funds provided for the ATST Cooperative Agreement, are accounted for consistent with the identified requirements if future cost sharing agreements are entered into.

b. Recommendation

We recommend that NOAO establish policies and procedures related to cost sharing/matching to address the requirements in 2 CFR Part 215.23, “Cost sharing or matching.”

c. Awardee’s Reaction

The terms and conditions of the AURA Cooperative Agreements do not allow for Cost Sharing and therefore, NOAO/NSO has never been required to have a policy or procedure. However, upon DCAA’s recommendation NOAO has drafted procedures addressing “Cost Sharing or Matching.”

d. Auditor’s Response

The contractor concurs with our recommendation. We reviewed NOAO’s draft Cost Sharing or Matching procedures provided with its October 29, 2010 written response. The draft procedure appears to be adequate and should meet the requirements of an adequate accounting system for accumulating and billing costs under Government contracts; however we recommend that our office review NOAO’s accounting system once the procedure has been implemented.

4. Participant Support Costs

a. Condition

NOAO does not maintain policies and procedures related to participant support costs to address the requirements in the NSF Grant Policy Manual, Section 618, “Participant Support Costs.” Chapter VI of the NSF Grant Policy Manual covers the general applicability of Federal cost principles to NSF cost reimbursement grants, including a discussion of selected items of cost and description of NSF prior approval requirements. Paragraph 618 Participant Support Costs defines these costs as costs for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with meetings, conferences, symposia or training projects. Paragraph 618.1.b. states “Funds provided for participant support may not be used by grantees for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer. Therefore, awardee organizations must account for participant support costs separately.” NOAO has no written policies or procedures to ensure Participant Support Costs are separately accounted for in its accounting system. Segregation of these costs is required by the Grant Policy Manual and is required to ensure appropriate treatment of these costs. The awardee’s system should include participant support costs policies and procedures to ensure potential participant support costs are accounted for in accordance with the NSF Grant Policy Manual requirements.

b. Recommendation

We recommend that NOAO establish policies and procedures related to participant support costs to address the requirements in the NSF Grant Policy Manual, Section 618, “Participant Support Costs.”

c. Awardee’s Reaction

Upon the recommendation of DCAA, NOAO has drafted procedures addressing “NSF Funded Participant Support.”

d. Auditor’s Response

The contractor concurs with our recommendation. We reviewed NOAO’s draft NSF Funded Participant Support procedure provided with its October 29, 2010 written response. The draft procedure appears to be adequate and should meet the requirements of an adequate accounting system for accumulating and billing costs under Government contracts; however we recommend that our office review NOAO’s accounting system once the procedure has been implemented.

5. Subrecipient Monitoring

a. Condition

NOAO currently does not have written policies and procedures to (i) include processes to monitor this MREFC (Major Research Equipment and Facilities Construction) project’s subrecipients, or to (2) ensure compliance with the Buy American requirements of the ARRA.

In accordance with 2 CFR 215.47, the recipient is required to “evaluate contractor performance and document, as appropriate, whether contractors have met the terms, conditions and specifications of the contract.” In addition, under OMB reporting requirements (Section 2.3) for ARRA funds, “the prime recipient is ultimately responsible for the reporting of all data required by Section 1512 of the Recovery Act and this Guidance”. The prime recipient may delegate certain reporting requirements to subrecipients, but the prime recipient is responsible to design and implement a process that prevents both the prime and subrecipients reporting on the same activity (Section 2.9). It is also the responsibility of the prime recipient to ensure subrecipients are complying with the Buy American Provisions in the ARRA set forth in OMB Interim Final Guidance effective date of April 3, 2009.

In our examination of purchase order files (see Condition Statement No. 8 for details), we found NOAO was not consistently monitoring subrecipients submissions and were not consistently documenting review of subrecipients performance as required by 2 CFR 215 and OMB reporting requirements.

Failure to adequately monitor subrecipients could result in (i) projects not being completed in accordance with terms of the agreement, (ii) duplicate or incomplete reporting of activities funded by ARRA funds, and (iii) non-compliance with the ARRA Buy American Requirements.

b. Recommendation

We recommend that NOAO establish policies and procedures for monitoring subrecipients as described in 2 CFR 215.47, “Contract Administration” and in accordance with OMB Memorandum M-09-21 dated June 22, 2009.

c. Awardee’s Reaction

The awardee concurs with our recommendation and has implemented written policies for subrecipient monitoring in Section X of AURA’s Procurement Policies effective September 1, 2010. NOAO included a copy of the policy with its written response. ARRA reporting compliancy is currently monitored by the Contracts Officer.

**Audit Report No. 4301-2010B17740006– (Revised)**

d. Auditor's Response

The awardee concurs with our recommendation. We reviewed Section X Sub-Recipient Monitoring of AURA's Procurement Guidelines Manual Revision August 2010. This should meet the requirements of an adequate accounting system for accumulating and billing costs under Government contracts. However we recommend that our office review NOAO's accounting system once the procedure has been implemented.

6. Estimating Policies and Procedures

a. Condition

NOAO does not have documented Estimating Policies and Procedures or an effective process for preparing adequate proposals. The amount of funds obligated in the NSF Cooperative Agreements is based on the contractor's submission of a cost estimate. The adequacy of the cost estimate directly impacts the recipients ability to adequately monitor and implement financial controls outlined in The NSF Grant Policy Manual and 2 CFR section 215. Accordingly, NOAO's failure to establish estimating policies and procedures directly impact the recipients ability to generate an adequate price estimate for the anticipated cooperative agreement. During our adequacy review of National Science Foundation's proposal for the Association of Universities for Research in Astronomy, Inc. (AURA) Cost Book Proposal for the Advanced Technology Solar Telescope (ATST), we cited the NSF for several inadequacies as cited in our Memorandum referenced 820.6A / 4301-2010B21000002, dated October 1, 2010

b. Recommendation

We recommend that NOAO establish policies and procedures related to preparing adequate proposals.

c. Awardee's Reaction

AURA generates infrequent proposals. Consequently, no comprehensive estimating policy is currently in effect. To ensure the adequacy of future proposals and procurements, AURA is developing a series of policies and procedures to address the scope and nature of the estimating process including timeliness of quotes, content, basis of estimates and cost/price analysis consistent with the requirements of 2 CFR 215.45.

d. Auditor's Response

The awardee concurs with our recommendation. Once NOAO has implemented these policies and procedures, we request that our office be requested to review the estimating policies and procedures to ensure that the system is designed adequately to generate valid cost estimates that are meaningful and closely correlated to final performance.

7. Purchase Order (PO) Files not Adequate

a. Condition

NOAO does not have adequate documentation in its PO files to confirm compliance with 2 CFR Part 215 requirements. 2 CFR Parts 215.40 through 215.48, “Procurement Standards” provides standards for use by recipients in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. We selected a judgmental sample of nine PO files from the June 14, 2010 expense listings for NSO accounts SWA, SWD, SWS, SWT, ST2, ST3, ST4 and ST5 to determine compliance with the requirements of the Procurement Standards and found the following deficiencies:

- One of the files did not have a signed sole source justification as required by the Association of Universities for Research in Astronomy, Inc. (AURA)/NOAO Procurement Department Purchasing Policies and Procedures (Sole source justification required by 2 CFR Part 215.46(b), “Procurement Records”);
- Six of files either did not have a cost/price analysis or did not have an adequate cost/price analysis (Cost and price analysis required by 2 CFR Part 215.45 “Cost and price analysis”);
- The PO files reviewed disclosed the prime recipient is not consistently doing the following:
  - adequately monitoring data submitted by subrecipients under Section 1512 of the Recovery Act
  - obtaining an understanding of subrecipients’ accounting systems to determine their adequacy to account for, segregate and report the use of subawardees’ ARRA funds in accordance with OMB implementing guidance dated June 22, 2009;
  - monitoring and documenting subawardee compliance with the terms and conditions of the subawards (2 CFR 215 Part 215.47, “Contract administration”); and
  - ensuring subrecipient compliance with the Buy American Requirements of ARRA.

In addition to the deficiencies noted above, we found a payment that was posted incorrectly on the Advanced Technology Solar Telescope (ATST) expense report used as the universe in selecting PO files.

The deficiencies noted in the PO files could result in inflated subrecipient costs, non-compliance with ARRA reporting requirements, noncompliance with the terms of the agreement, and unreliable expense reports.

**Audit Report No. 4301-2010B17740006– (Revised)**

b. Recommendation

We recommend that NOAO establish and implement procedures for the following:

- Preparing adequate and complete sole source justifications as required by 2 CFR Part 215.46, “Procurement Records,” and AURA/NOAO Procurement Department Policies and Procedures Manual, Section 2;
- Preparing adequate cost or price analyses as required by 2 CFR Part 215.45, Cost and price analysis”;
- Adequately monitoring subrecipients, including obtaining an understanding of the subrecipients’ accounting system and ensuring compliance with the ARRA Buy American requirements, as required by Section 1512 of the ARRA of 2009 and by 2 CFR 215.47, “Contract administration”; and
- Implement controls to ensure the posting of payments to the correct account numbers.
- Establishing internal monitoring processes to periodically review procurement files for compliance with established policies and procedures.

c. Awardee’s Reaction

The deficiencies are acknowledged and as such, policies and procedures regarding Sole Source Justifications, Cost and Price Analysis, and Subrecipient monitoring have been addressed and implemented in “AURA Procurement Policies, Effective September 1, 2010.”

d. Auditor’s Response

The awardee concurs with our recommendation. We reviewed Section VI Source Selection Policies and Procedures of AURA’s Procurement Guidelines Manual Revision August 2010. This should meet the requirements of an adequate accounting system for accumulating and billing costs under Government contracts. However we recommend that our office review NOAO’s accounting system once the procedure has been implemented.

8. Equipment Files

a. Condition

NOAO does not have adequate documentation in its Capital Equipment files as required by 2 CFR Part 215.34, “Equipment.” The requirements of paragraph (f)(1) of this section are shown below:

The recipient’s property management standards for equipment acquired with Federal funds and federally-owned equipment shall include all of the following:

**Audit Report No. 4301-2010B17740006– (Revised)**

- i. A description of the equipment;
- ii. Manufacturer’s serial number, model number, Federal stock number, national stock number, or other identification number;
- iii. Source of the equipment, including the award number;
- iv. Whether title vests in the recipient or the Federal Government;
- v. Acquisition date (or date received, if the equipment was furnished by the Federal Government) and cost;
- vi. Information from which one can calculate the percentage of Federal participation in the cost of the equipment (not applicable to equipment furnished by the Federal Government);
- vii. Location and condition of the equipment and the date the information was reported;
- viii. Unit acquisition cost;
- ix. Ultimate disposition data, including date of disposal and sales price or the method used to determine current fair market value where a recipient compensates the Federal awarding agency for its share.

We selected a random sample of eight equipment files for assets located in Tucson, Arizona from the awardee’s over \$25 thousand equipment listing report which contained a total of 326 items with 73 pieces of equipment located in Tucson. We reviewed the selected items for compliance with the above listed attributes. We found five of the files or 62 percent to be deficient as detailed below:

- File 11199 did not specify the source Award Number;
- File 10024 did not reflect that this asset had been dispositioned;
- File 11594 contained a serial number different than the asset serial number;
- The amount in File 11172 did not reconcile to the asset amount in the equipment listing report; and
- The source Award Number was not found in supporting documents of File 11074.

In addition, we found that the dollar amount from the Capital Equipment listing report did not reconcile to the Trial Balance amount for the Capital Equipment account.

Failure to keep accurate equipment records and to reconcile the equipment report to the accounting records is not compliant with the requirements of 2 CFR Part 215.34, “Equipment” and could result in an incorrect account balance for assets.

**Audit Report No. 4301-2010B17740006– (Revised)**

b. Recommendation

We recommend that NOAO establish controls to ensure its management of assets is in compliance with the requirements of 2 CFR Part 215.34, “Equipment,” and to ensure the property records reconcile to the accounting records.

c. Awardee’s Reaction

NOAO states that its Capital Equipment files and database contain all of the information required by regulation. Every effort is made to insure records are accurate and comply with regulations. NOAO Property Control Procedures were included as a separate attachment to its October 29, 2010 letter. NOAO will re-evaluate its review processes to be certain records are in compliance with regulations.

The awardee also addressed the above referenced file deficiencies:

- File 11199 - although the Award Number is not specifically spelled out on the electronic or paper copy of this file, it can be easily determined because the date of receipt and the account number are listed. With this information a listing of awards can be obtained from the accounting department
- File 10024 - this vehicle was used as a trade in for a new forklift in February and the paperwork had not been processed before the DCAA visit. Paperwork has since been received and the asset information updated in the database.
- File 11594 – the serial number was different from the asset serial number different due to a transposition of the second and third digit, instead of 139 as shown, it was actually 193, which has been corrected.
- File 11172 - a closer review of this record revealed a discrepancy between the paper and electronic files. The record has since been corrected.
- File 11074 - although the Award Number is not specifically spelled out on the electronic or paper copy of this file, it can be easily determined because the date of receipt and the account number are listed. With this information a listing of awards can be obtained from the accounting department.

d. Auditor’s Response

The awardee concurs with our recommendation. The contractor is re-evaluating its review processes to be certain records are in compliance with regulations. Once NOAO has completed its re-evaluation of its review process we request that our office be requested to review the property files to ensure they are in compliance with the requirements of 2 CFR Part 215.34, “Equipment”.

**CONTRACTOR ORGANIZATION AND SYSTEMS**

1. Contractor Organization

The Association of Universities for Research in Astronomy, Inc. (AURA) is a consortium of universities, and educational and other non-profit institutions, operating several astronomical observatories. AURA members include 32 U.S. institutions and 7 international affiliates. AURA has four operating segments. The Gemini Observatory is an international partnership to operate twin 8.1-meter telescopes on Hawaii's Mauna Kea and Chile's Cerro Pachon. The National Optical Astronomy Observatory (NOAO) operates telescopes located on Kitt Peak in Arizona and Cerro Tololo in Chile. NOAO also provides support for the Gemini Observatory. AURA operates NOAO for the National Science Foundation (NSF) under a cooperative agreement. The National Solar Observatory (NSO) provides observing facilities for use by the nation's solar and solar-terrestrial physics community. NSO conducts research at Sacramento Peak in New Mexico and at Kitt Peak in Arizona for the NSF under a cooperative agreement. The Space Telescope Science Institute (STScI) carries out the scientific mission of the Hubble Space Telescope. In addition, STScI is developing the Science and Operations Center for the James Webb Space Telescope (JWST), the successor to the Hubble. AURA manages STScI under contract with NASA. In 1999 AURA established the AURA Observatory Support Services (AOSS) to provide administrative and logistics support for AURA operations in Chile. AOSS is considered a service center in which its costs go directly to NOAO and NSO; it is not a segment of AURA.

2. Accounting System

NOAO maintains its accounting system on the accrual system in accordance with GAAP. The contractor's accounting period is from October 1 through September 30.

3. Estimating System

We have not reviewed NOAO's estimating system and related internal controls.

**DCAA PERSONNEL**

Primary contacts regarding this audit:

[REDACTED]

Telephone No.

[REDACTED]

Other contacts regarding this audit report:

[REDACTED]

[REDACTED]

Arizona Branch Office

FAX No.

[REDACTED]

Arizona Branch Office

E-mail Address

[REDACTED]

General information on audit matters is available at <http://www.dcaa.mil/>.

**RELEVANT DATES**

Request for Audit: Dated and received February 19, 2010

**AUDIT REPORT AUTHORIZED BY:**

/signed/

[REDACTED]

[REDACTED]

**AUDIT REPORT DISTRIBUTION**

DISTRIBUTION

Audit Manager  
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Office of the Inspector General  
ATTN: Mr. David Willems  
4201 Wilson Boulevard  
Arlington, VA 22230

E-mail Address  
dwillems@nsf.gov

Association Of Universities For Research In Astronomy  
950 N Cherry Avenue  
Tucson, AZ 85719

(Copy furnished thru PCO)

PREAWARD SURVEY FOR NON-PROFIT ORGANIZATION'S ACCOUNTING SYSTEM	RAYTHEON TUCSON RESIDENT OFFICE	DEFENSE CONTRACT AUDIT AGENCY
	PROSPECTIVE CONTRACTOR: National Optical Astronomy Observatories (NOAO)	

**SECTION I - RECOMMENDATION**

**1. CONTRACTOR'S ACCOUNTING SYSTEM IS ACCEPTABLE FOR AWARD OF PROSPECTIVE CONTRACT/GRANT.**

- YES       NO (Explain in 2. Narrative)
- YES, WITH A RECOMMENDATION THAT A FOLLOW-ON ACCOUNTING SYSTEM REVIEW BE PERFORMED AFTER CONTRACT AWARD (Explain in 2. narrative)

**2. NARRATIVE (Clarification of deficiencies, and other pertinent comments. (If additional space is required, continue on plain sheets of paper.))**

In our opinion, the design of the accounting system is not, in all material respects, considered acceptable for award of a prospective award in accordance with the criteria contained in 2 CFR Part 215.

- NOAO currently does not have written policies and procedures for determining the reasonableness, allocability and allowability of costs in accordance with the provisions of the applicable Federal cost principles and the terms and conditions of the award;
- NOAO does not identify the receipt of funds by project and does not distinguish between ARRA funds as required by 2 CFR Part 215.21 and Part 215.22(i)(1);
- NOAO does not maintain policies and procedures related to cost sharing/matching;
- NOAO does not maintain policies and procedures related to participant support costs;
- NOAO currently does not have written policies and procedures to (i) include processes to monitor this MREFC (Major Research Equipment and Facilities Construction) project's subawardees, and (2) ensure compliance with the Buy American requirements of the ARRA;
- NOAO currently does not have controls in place to prevent drawing down contingency money funded by NSF and spending it without advance NSF approval;
- NOAO currently does not have adequate documentation in its PO files; and
- NOAO currently does not have adequate documentation in its Capital Equipment files, and the dollar amount from its listing of Capital Equipment does not reconcile to the Trial Balance amount for the Capital Equipment account.

3. SURVEY MADE BY	a. Signature and Office (Include typed or printed name) [Redacted] Raytheon Tucson Resident Office	b. Telephone No. [Redacted]	c. Date Signed November 4, 2010
4. SURVEY REVIEWING OFFICIAL	a. Signature and Office (Include typed or printed name) [Redacted] Raytheon Tucson Resident Office	b. Telephone No. [Redacted]	c. Date Reviewed November 10, 2010



**SECTION II - EVALUATION CHECKLIST**

MARK "X" IN THE APPROPRIATE COLUMN (Explain any deficiencies in SECTION I NARRATIVE)	YES	NO	N/A
1. EXCEPT AS STATED IN SECTION I NARRATIVE, IS THE ACCOUNTING SYSTEM IN ACCORD WITH GENERALLY ACCEPTED ACCOUNTING PRINCIPLES APPLICABLE IN THE CIRCUMSTANCES?	√		
<b>2. ACCOUNTING SYSTEM PROVIDES FOR:</b>			
a. Proper segregation of direct costs from indirect costs. (Circular A-122, Attachment A)	√		
b. Identification and accumulation of direct costs by contract. (Circular A-110, C.21b(1))	√		
c. A logical and consistent method for the allocation of indirect costs to intermediate and final cost objectives. (A contract is a final cost objective.) (Circular A-122, Attachment A)	√		
d. Accumulation of costs under general ledger control.	√		
e. A timekeeping system that identifies employees' labor by intermediate or final cost objectives. (Circular A-122, Attachment B)	√		
f. A labor distribution system that charges direct and indirect labor to the appropriate cost objectives.	√		
g. Interim (at least monthly) determination of costs charged to a contract through routine posting of books of account.	√		
h. Exclusion from costs charged to government contracts of amounts which are not allowable in Circular A-122, Attachment B, or other contract provisions.		√	
i. Identification of costs by contract line item and by units (as if each unit or line item were a separate contract) if required by the proposed contract/grant.	√		
<b>3. ACCOUNTING SYSTEM PROVIDES FINANCIAL INFORMATION:</b>			
a. Required by Circular A-110, Standards of Financial Management Systems.		√	
b. Required to support requests for reimbursement payments.(Circular A-110, C.22(e))	√		
c. Required to support requests for advance payments.(Circular A-110, C.22(a)(b))		√	
4. IS THE ACCOUNTING SYSTEM DESIGNED, AND ARE THE RECORDS MAINTAINED IN SUCH A MANNER THAT ADEQUATE, RELIABLE DATA IS DEVELOPED FOR USE IN PRICING FOLLOW-ON ACQUISITIONS?		√	
5. IS THE ACCOUNTING SYSTEM CURRENTLY IN FULL OPERATION? (If not, describe in Section I, Narrative which portions are (i) in operation, (ii) set up, but not yet in operation, (iii) anticipated, or (iv) nonexistent	√		





NSO/Tucson  
950 N. Cherry Avenue  
P.O. Box 26732  
Tucson, AZ 85726-6732  
Ph. (520) 318-8294; Fax (520) 318-8278  
e-mail: [nso@noao.edu](mailto:nso@noao.edu)

NSO/Sacramento Peak  
P.O. Box 62  
Sunspot, NM 88349-0062  
Ph. (505) 434-7000  
Fax (505) 434-7029 or 7079  
e-mail: [nso@sunspot.noao.edu](mailto:nso@sunspot.noao.edu)

October 29, 2010

██████████  
Defense Contract Audit Agency  
Department of Defense  
Building 801, M/S K-4  
1151 E. Hermans Road  
Tucson, AZ 85756-9367

Dear ██████████

In reference to your letter addressed to ██████████ dated September 17, 2010, we are pleased to provide the following responses to the Statement of Conditions and Recommendations noted:

1. Policies and Procedures for Determining Costs

Policies for determining reasonableness, allocability and allowability of costs are set forth in Section I, AURA Procurement Policies, Effective September 1, 2010. A copy of the policy is attached. A more detailed discussion is provided in the following attachments.

2. Identification of Receipt of Funds

NOAO's accounting system, policies and procedures have been in place and virtually unchanged since 1996. During that time, NOAO has undergone audits from outside agencies; Clifton Gunderson, KPMG and Coopers and Lybrand; and reviews by NSF. All of those audits and reviews have confirmed that NOAO's accounting system meets or exceeds all the requirements needed to track funds in accordance with all applicable rules and regulations.

NOAO's accounting system assigns a unique Project Account, or set of Project Accounts, for each Award from NSF. These Projects Accounts track budget, commitment and expense activity against specific Awards, thereby identifying adequately the source and application of funds for federally-sponsored activities. A more detailed discussion is provided in the following attachments.

3. Cost Sharing/Matching

The terms and conditions of the AURA Cooperative Agreements do not allow for Cost Sharing and therefore, NOAO/NSO has never been required to have a policy or procedure. However, upon the recommendation of the DCAA reviewers, a policy was drafted and is now included in NOAO's Procedures manual. See policy in the following attachments.

4. Participant Support Costs

For the Award under review, funds for this purpose were neither requested nor awarded. Upon the recommendation of the DCAA reviewers, a policy was drafted and is now included in NOAO's Procedures manual. See policy in the following attachments.

5. Subrecipient Monitoring

Although not formally established prior to September 1, 2010, Center policy has been to monitor contractor performance and document, as appropriate, whether contractors have met the terms, conditions and specifications of the contract.

Written policies for subrecipient monitoring are set forth in Section X, AURA Procurement Policies, Effective September 1, 2010. A copy of the policy is attached. A more detailed discussion is provided in the following attachments.

6. Estimating Policies and Procedures

AURA generates infrequent proposals. Consequently, no comprehensive estimating policy is currently in effect. To ensure the adequacy of future proposals and procurements, AURA is developing a series of policies and procedures to address the scope and nature of the estimating process including timeliness of quotes, content, basis of estimates and cost/price analysis consistent with the requirements of 2 CFR 215.45. A more detailed discussion is provided in the following attachments.

7. Purchase Order (PO) Files not Adequate

The deficiencies are acknowledged and as such, policies and procedures regarding Sole Source Justifications, Cost and Price Analysis, and Subrecipient Monitoring have been addressed and implemented in "AURA Procurement Policies, Effective September 1, 2010." See policies and more detailed discussion in the following attachments.

8. Equipment Files

NOAO's Capital Equipment files and database contain all of the information required by regulation. Every effort is made to ensure records are accurate and comply with regulations. NOAO will re-evaluate its review process to be certain records are in

compliance with regulations. See a detailed discussion regarding specific files in the following attachments. A copy of NOAO's Property Control Procedures is also attached.

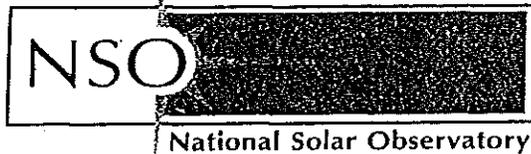
Please feel free to contact us with any questions or comments in regards to our response.

Sincerely,

A large black rectangular redaction box covering the signature and name of the sender.

Enclosure

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NSO/Tucson  
950 N. Cherry Avenue  
P.O. Box 26732  
Tucson, AZ 85726-6732  
Ph. (520) 318-8294; Fax (520) 318-8278  
e-mail: [nso@noao.edu](mailto:nso@noao.edu)

NSO/Sacramento Peak  
P.O. Box 62  
Sunspot, NM 88349-0062  
Ph. (505) 434-7000  
Fax (505) 434-7029 or 7079  
e-mail: [nso@sunspot.noao.edu](mailto:nso@sunspot.noao.edu)

October 29, 2010

██████████  
Auditor  
Defense Contract Audit Agency  
Department of Defense  
Building 801, M/S K-4  
1151 E. Hermans Road  
Tucson, AZ 85756-9367

Dear Ms. Dickens:

In reference to your letter addressed to ██████████ dated September 17, 2010, we are pleased to provide the following responses to the Statement of Conditions and Recommendations noted:

1. Policies and Procedures for Determining Costs

Policies for determining reasonableness, allocability and allowability of costs are set forth in Section I, AURA Procurement Policies, Effective September 1, 2010. A copy of the policy is attached. A more detailed discussion is provided in the following attachments.

2. Identification of Receipt of Funds

NOAO's accounting system, policies and procedures have been in place and virtually unchanged since 1996. During that time, NOAO has undergone audits from outside agencies; Clifton Gunderson, KPMG and Coopers and Lybrand; and reviews by NSF. All of those audits and reviews have confirmed that NOAO's accounting system meets or exceeds all the requirements needed to track funds in accordance with all applicable rules and regulations.

NOAO's accounting system assigns a unique Project Account, or set of Project Accounts, for each Award from NSF. These Projects Accounts track budget, commitment and expense activity against specific Awards, thereby identifying adequately the source and application of funds for federally-sponsored activities. A more detailed discussion is provided in the following attachments.

### 3. Cost Sharing/Matching

The terms and conditions of the AURA Cooperative Agreements do not allow for Cost Sharing and therefore, NOAO/NSO has never been required to have a policy or procedure. However, upon the recommendation of the DCAA reviewers, a policy was drafted and is now included in NOAO's Procedures manual. See policy in the following attachments.

### 4. Participant Support Costs

For the Award under review, funds for this purpose were neither requested nor awarded. Upon the recommendation of the DCAA reviewers, a policy was drafted and is now included in NOAO's Procedures manual. See policy in the following attachments.

### 5. Subrecipient Monitoring

Although not formally established prior to September 1, 2010, Center policy has been to monitor contractor performance and document, as appropriate, whether contractors have met the terms, conditions and specifications of the contract.

Written policies for subrecipient monitoring are set forth in Section X, AURA Procurement Policies, Effective September 1, 2010. A copy of the policy is attached. A more detailed discussion is provided in the following attachments.

### 6. Estimating Policies and Procedures

AURA generates infrequent proposals. Consequently, no comprehensive estimating policy is currently in effect. To ensure the adequacy of future proposals and procurements, AURA is developing a series of policies and procedures to address the scope and nature of the estimating process including timeliness of quotes, content, basis of estimates and cost/price analysis consistent with the requirements of 2 CFR 215.45. A more detailed discussion is provided in the following attachments.

### 7. Purchase Order (PO) Files not Adequate

The deficiencies are acknowledged and as such, policies and procedures regarding Sole Source Justifications, Cost and Price Analysis, and Subrecipient Monitoring have been addressed and implemented in "AURA Procurement Policies, Effective September 1, 2010." See policies and more detailed discussion in the following attachments.

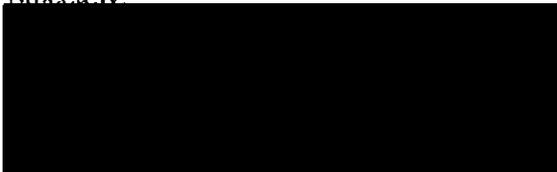
### 8. Equipment Files

NOAO's Capital Equipment files and database contain all of the information required by regulation. Every effort is made to ensure records are accurate and comply with regulations. NOAO will re-evaluate its review process to be certain records are in

compliance with regulations. See a detailed discussion regarding specific files in the following attachments. A copy of NOAA's Property Control Procedures is also attached.

Please feel free to contact us with any questions or comments in regards to our response.

Sincerely,



Enclosure

Responses for DCAA report 3761-2010B1777400006

1) Policies and Procedures for Determining Costs

Policies for determining reasonableness, allocability and allowability of costs are set forth in Section I, AURA Procurement Policies, Effective September 1, 2010. A copy of the policy is attached. The applicable paragraph of Section I appears on Page 5, entitled:

“Compliance with 2 CFR Part 230: OMB A122- Cost Principles for Non-Profit Organizations”

“All AURA Centers will comply with 2 CFR Part 230, “Cost Principles for Non-Profit Organizations.” This regulation restricts what types of items AURA is allowed to purchase. All procurements using federal funds must comply with the allowable principles contained in 2 CFR Part 230.”

2 CFR 230 ( OMB A122) Attachment A defines “reasonableness” of costs in General Principles, Section A(3), Allocability in A(4) and Cost Allowability in Attachment B.

2) Identification of Receipt of Funds

NOAO’s accounting system, policies and procedures have been in place and virtually unchanged since 1996. During that time NOAO has undergone audits from outside agencies; Clifton Gunderson, KPMG and Coopers and Lybrand; and reviews by NSF. All of those audits and reviews have confirmed that NOAO’s accounting system meets or exceeds all the requirements needed to track funds in according with all applicable rules and regulations.

NOAO maintains a single bank account in which all funds drawn from NSF are deposited. NOAO draws cash from NSF based upon total estimated cash requirements for all entities for which NOAO provides Business Services. These entities include NSO, WIYN, SOAR, LSSTC and Gemini. NSF does not require that funds be drawn by specific Award, only that the recipient be able to reconcile cash disbursements at the end of each quarter.

NOAO’s accounting system assigns a unique Project Account, or set of Project Accounts, for each Award from NSF. These Projects Accounts track budget, commitment and expense activity against specific Awards, thereby identifying adequately the source and application of funds for federally-sponsored activities.

The DCAA Review Team was charged with examining NSF Award AST-0415302, Advanced Technology Solar Telescope (ATST) Construction under the American Recovery and Reinvestment Act of 2009 (ARRA). This Award has been uniquely identified as NSO CSA-2 and assigned the Project Account series SWAXXX-XXX. NOAO’s accounting system works with a nine-digit account system, so the previous statement indicates that all nine-digit Project Accounts beginning with SWA track activity for NSF Award AST-0415302.

Attachment #1 is a screen shot of the Cash Request Form on NSF’s FastLane System. Note that there is only one indication of an authorized balance. This balance includes funds available for all AURA Awards and includes funds for NOAO, NSO and Gemini.

Attachment #2-Financial Mgmt Rpt 3-31-10 - SWA accounts.pdf is a Financial Management Report dated March 31, 2010 from NOAO's CASNET on-line reporting system. This report includes all the data necessary to track the source and application of funds from NSF Award AST-0415302. This report identifies the budget for the Award, expenditures to date, future commitments (encumbrances) and the balance available. This report provides the information needed to submit reports required by the NSF, quarterly Federal Financial Report or FFR, and quarterly ARRA reports to be filed on FederalReporting.gov.

Attachment #3-FFR 3-31-2010.pdf is the quarterly FFR filed with the NSF for the quarter ending March 31, 2010. The FFR identifies cash expenditures for the quarter and indicates [REDACTED] in cash expenditures for NSF Award AST-0415302 for the period ending March 31, 2010 which is also stated on the last page of Attachment #2.

### 3) Cost Sharing/Matching

The terms and conditions of the AURA Cooperative Agreements do not allow for Cost Sharing and therefore, NOAO/NSO have never been required to have a policy or procedure. However, upon the recommendation of the DCAA reviewers, the following is now included in NOAO's Procedures manual:

#### **Cost Sharing or Matching**

In general, NSF does not allow NOAO and NSO to enter into cost sharing agreements. When allowed, all contributions, including cash and third party in-kind, shall be accepted when such contributions meet all of the following criteria.

- (1) Are verifiable in the accounting records.
  - (2) Are not included as contributions for any other federally-assisted project or program.
  - (3) Are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
  - (4) Are allowable under the applicable cost principles.
  - (5) Are not paid by the Federal Government under another award, except where authorized by Federal statute to be used for cost sharing or matching.
  - (6) Are provided for in the approved budget.
  - (7) Conform to other provisions of this part, as applicable.
- (b) Unrecovered indirect costs may be included as part of cost sharing or matching only with the prior approval of NSF.
- (c) Values for contributions of services and property shall be established in accordance with the applicable cost principles. If NSF authorizes the donation of buildings or land for construction/facilities acquisition projects or long-term use, the value of the donated property for cost sharing or matching shall be the lesser of paragraphs (c)(1) or (c) (2) of this section.
- (1) The certified value of the remaining life of the property recorded in the accounting records at the time of donation.
  - (2) The current fair market value. However, when there is sufficient justification, the Federal awarding agency may approve the use of the current fair market value of the

donated property, even if it exceeds the certified value at the time of donation to the project.

(d) Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services shall be consistent with those paid for similar work in the recipient's organization. In those instances in which the required skills are not found in the recipient organization, rates shall be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

(e) When an employer other than AURA furnishes the services of an employee, these services shall be valued at the employee's regular rate of pay (plus an amount of fringe benefits that are reasonable, allowable, and allocable, but exclusive of overhead costs), provided these services are in the same skill for which the employee is normally paid.

(f) Donated supplies may include such items as expendable equipment, office supplies, laboratory supplies or workshop and classroom supplies.

Value assessed to donated supplies included in the cost sharing or matching share shall be reasonable and shall not exceed the fair market value of the property at the time of the donation.

(g) The method used for determining cost sharing or matching for donated equipment, buildings and land for which title passes to the recipient may differ according to the purpose of the award, if paragraphs (g)(1) or (g)(2) of this section apply.

(1) If the purpose of the award is to assist the recipient in the acquisition of equipment, buildings or land, the total value of the donated property may be claimed as cost sharing or matching.

(2) If the purpose of the award is to support activities that require the use of equipment, buildings or land, normally only depreciation or use charges for equipment and buildings may be made. However, the full value of equipment or other capital assets and fair rental charges for land may be allowed, provided that the Federal awarding agency has approved the charges.

(h) The value of donated property shall be determined in accordance with the usual accounting policies, with the following qualifications.

(1) The value of donated land and buildings shall not exceed its fair market value at the time of donation to AURA as established by an independent appraiser (e.g., certified real property appraiser or General Services Administration representative) and certified by a responsible official of the recipient.

(2) The value of donated equipment shall not exceed the fair market value of equipment of the same age and condition at the time of donation.

(3) The value of donated space shall not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.

(4) The value of loaned equipment shall not exceed its fair rental value.

(5) The following requirements pertain to the supporting records for in-kind contributions from third parties.

(i) Volunteer services shall be documented and, to the extent feasible, supported by the

same methods used by the AURA Center for its own employees.

(ii) The basis for determining the valuation for personal service, material, equipment, buildings and land shall be documented.

#### 4) Participant Support Costs

For the Award under review, funds for this purpose were neither requested nor awarded. Upon the recommendation of the DCAA reviewers, the following is now included in NOAO's Procedures manual:

### **NSF Funded Participant Support**

Participant support costs are for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with meetings, conferences, symposia or training projects.

NSF funds specifically provided for participant support may not be used for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer. Therefore, AURA Centers must account for participant support costs separately.

Participant support allowances may not be paid to trainees who are receiving compensation, either directly or indirectly, from other Federal government sources while participating in the project. A non-NSF Federal employee may receive participant support allowances from grant funds provided there is no duplication of funding of items and provided no single item of participant cost is divided between his/her parent agency and NSF grant funds.

Additional participant support guidelines are published in NSF's *Award and Administration Guide* (AAG).

### **Stipends or Subsistence Allowances**

To help defray the costs of personal maintenance while participating in a conference or training activity, participants may be paid a stipend, per diem or subsistence allowance, based on the type and duration of the activity, as outlined in the NSF program solicitation and in the grant. Such allowances must be reasonable, in conformance with the usual policy of the AURA Center and limited to the days of attendance at the conference plus the actual travel time required to reach the conference location by the most direct route available. Where meals or lodgings are furnished without charge or at a nominal cost (e.g., as part of the registration fee), the per diem or subsistence allowance will be correspondingly reduced. Although local participants may participate in conference meals and coffee breaks as provided for in AAG Chapter V.C.5, grant funds may not be used to pay per diem or similar expenses for local participants in the conference.

### **Travel Allowances**

Travel costs of participants may be allowable as outlined in the pertinent program solicitation and in the grant. If so, the restrictions regarding class of accommodations (see AAG Chapter V.B.4) and use of U.S.-Flag air carriers (see AAG Chapter VI.G.1) are applicable.

In training activities that involve field trips, costs of transportation of participants are allowable.

## 5) Subrecipient Monitoring

Although not formally established prior to September 1, 2010, Center policy has been to monitor contractor performance and document, as appropriate, whether contractors have met the terms, conditions and specifications of the contract. Written policies for subrecipient monitoring are set forth in Section X, AURA Procurement Policies, effective September 1, 2010. A copy of the policy is attached.

ARRA reporting compliancy is currently monitored by the Contracts Officer. Subrecipients, as a condition of their subaward, must provide a copy of their ARRA report to the Contracts Officer or have agreed to have the Contracts Officer submit their report on their behalf. Where the subrecipient is required to perform self reporting, an ancillary requirement is to provide the Contracts Officer with a notice of report submission within a time period that allows the Contracts Officer to modify or correct any ARRA data already submitted prior to the submission deadline. These requirements are reflected in the respective contracts.

As the number of subawards increases, the monitoring process will be documented as part of the Contracts Officer's "Subrecipient's Performance Matrix." The Performance Matrix tracks deliverables such as monthly reports, meeting minutes, etc. The notations on the Matrix will indicate whether the reporting is done by the subrecipient or the Contracts Officer. This approach mitigates the risk of duplicate reporting.

Compliancy with the ARRA "Buy American" requirement is met with a written statement, signed by the subrecipients's corporate officer or their designee, acknowledging the "Buy American" provisions of the subaward. The subrecipient acknowledges that they are or will be in compliance with the provision as a condition of the subaward. This statement is submitted to AURA by the subrecipient via a form provided as part of the Request for Proposal documentation.

## 6) Estimating Policies and Procedures

AURA generates infrequent proposals. Consequently, no comprehensive estimating policy is currently in effect. However, and when required, cost estimating is generally based on numerous factors including, but not limited to, actual and historical costs associated with projects of similar scope and nature, surveys of material and labor market prices to determine regional and skill set norms, and internal engineering experience. Further, when non binding quotes are solicited from the limited supplier community, the firm's experience with similar past projects, their key personnel performing the services, their available resources to undertake and complete the project, their proposed management plan, their proposed deviations from the requirements, and any special and/or unique capabilities that would bear on their performance are also factored in to determine the reasonableness of the estimates.

To ensure the adequacy of future proposals and procurements, AURA is developing a series of policies and procedures to address the scope and nature of the estimating process including timeliness of quotes, content, basis of estimates and cost/price analysis consistent with the requirements of 2 CFR 215.45.

## 7) Purchase Order (PO) Files Not Adequate

The deficiencies are acknowledged and as such, policies and procedures regarding Sole Source Justifications, Cost and Price Analysis, and Subrecipient monitoring have been addressed and implemented in "AURA Procurement Policies, Effective September 1, 2010."

Specifically:

Sole Source Justifications – In the event a procurement where a specific source is requested, the requestor must provide to the buyer a written and signed statement describing in detail the reason(s) why only the sole source should be used. The reasons may include product or service availability and impact to schedule and technical capability, along with an industry survey indicating a lack of alternate acceptable sources. In addition, the requestor must provide an analysis or other evidence that the sole source's cost and pricing is fair and reasonable. The analysis or evidence must be consistent with the requirements of 2 CFR 215.45.

Monitoring of Subrecipients, ARRA Accounting Compliancy – As part of the pre-qualification process, Subrecipients are required to certify that their accounting system is capable of complying with all requirements of the ARRA funding. Additionally, if desired, AURA may request copies of independent audit reports documenting sufficiency of Subrecipient's accounting system to comply with ARRA requirements. If necessary, AURA staff will visit ARRA funded Subrecipients to review accounting systems throughout the term of the subaward on a regular basis to verify ARRA compliancy.

Internal monitoring processes - Procurement files are typically reviewed by the Contracts Officer semi-annually to ensure compliancy and completeness (e.g. all required forms and statements have been submitted, invoice tracking and proper account numbers are up to date, etc.)

The following is a response in regards to the incorrect posting issue noted by the auditor:

A payment was posted incorrectly on the Advanced Technology Solar Telescope expense report when initially provided to the DCAA auditor. However, the error was later identified during the Accounting Department's internal review process and corrected.

## 8) Equipment Files

NOAO's Capital Equipment files and database contain all of the information required by regulation. Every effort is made to insure records are accurate and comply with regulations.

Regarding the deficiencies as outlined in the DCAA letter:

File 11199 did not specify the source Award Number.

Although the Award Number is not specifically spelled out on the electronic or paper copy of this file, it can be easily determined because the date of receipt and the account number are listed. With this information a listing of awards can be obtained from the accounting department.

File 10024 did not reflect that this asset had been disposed.

This vehicle was used as a trade in for a new forklift in February and the paperwork had not been processed before the DCAA visit. Paperwork has since been received and the asset information updated in the database.

File 11594 contained a serial number different than the asset serial number.

Yes it was different, there had been a transposition of the second and third digit, instead of 139 as shown, it was actually 193, which has been corrected.

File 11172 did not reconcile to the asset amount in the equipment listing report.

A closer review of this record revealed a discrepancy between the paper and electronic files. The record has since been corrected.

The source Award Number was not found in supporting documents of File 11074.

Although the Award Number is not specifically spelled out on the electronic or paper copy of this file, it can be easily determined because the date of receipt and the account number are listed. With this information a listing of awards can be obtained from the accounting department.

NOAO Property Control Procedures are included in a separate attachment to this letter. Every effort is made to ensure that property records are accurate. NOAO will re-evaluate its review processes to be certain records are in compliance with regulations.