

NATIONAL SCIENCE FOUNDATION
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**OFFICE OF
INSPECTOR GENERAL**

MEMORANDUM

DATE: March, 10, 2011

TO: Martha A. Rubenstein
Director and Chief Financial Officer
Office of Budget, Finance, and Award Management (BFA/OAD)

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

SUBJECT: Limited Scope Review of Recovery Act Quarterly Reporting Processes –
California Academy of Sciences, Report Number OIG-11-1-008

As part of our oversight responsibilities, the Office of Inspector General (OIG) has conducted reviews of institutions that have received National Science Foundation (NSF) grants funded by the American Recovery and Reinvestment Act (ARRA or Recovery Act) to assess the overall quality of required quarterly reporting. Such quarterly reports contain detailed information on ARRA projects and activities and are the primary means for keeping the public informed about the way funds are spent and the outcomes achieved. Our review objectives include determining whether the California Academy of Sciences (Academy) had established an adequate system of internal controls to provide reasonable assurance that (1) Recovery Act funds were segregated and separately tracked in its project cost accounting system and (2) quarterly reporting was timely, accurate, and fully compliant with Section 1512 ARRA reporting requirements. A detailed description of background, objectives, scope, and methodology for the review is in Appendix A.

Results of Review

Our review found that the Academy had properly segregated \$1.9 million in NSF funds awarded for its one ARRA grant in its accounting system and timely submitted Recovery Act quarterly reports. However, the Academy's processes for compiling and reviewing the quarterly ARRA information need improvement to ensure that all data elements reported are accurate, complete, and fully compliant with Section 1512 requirements. Specifically, our review disclosed data reporting errors in the December 2009 and March 2010 ARRA quarterly reports, including jobs reporting, total funds received, total funds expended, and vendor payments. In addition to the data reporting errors, the Academy did not incorporate the required ARRA and

NSF award terms and conditions in its \$231,084 Recovery Act-funded subaward to establish appropriate legal requirements for compliance with federal grant regulations.

These exceptions occurred because the Academy did not (i) thoroughly understand the intricacies of federal ARRA reporting requirements; (ii) establish formal ARRA reporting guidance, (iii) establish a process for performing a comprehensive data quality review of ARRA data to preclude clerical and/or posting errors; and (iv) understand requirements to flow-down ARRA and NSF terms and conditions to subrecipients. Given the unprecedented accountability and transparency goals of the Recovery Act, the development of effective processes and oversight functions are critical factors for ensuring ARRA data quality and proper management of Recovery Act funds.

We provided a draft of this memorandum to the Academy management for its review and comment. In addition, we discussed the findings with the Academy officials at the completion of our on-site review work so that timely improvements could be implemented to promote the highest degree of transparency and accountability over Recovery Act funds. The Academy concurred with the findings and stated that they have already implemented recommendations 1.2, 2.1 and 2.2. Their comments and position on findings and recommendations are included in its entirety in Appendix B.

With regard to recommendation 1.1, we have revised and redirected it from NSF to the Academy in the final audit report. The recommendation requires the Academy to establish and implement a policy to ensure staff members responsible for ARRA reporting stay informed of OMB and NSF changes and updates to Recovery Act reporting requirements and seek OMB and/or NSF technical assistance for clarification of any ambiguities.

To help ensure the recommendations are resolved within six months of audit report issuance pursuant to Office of Management and Budget Circular A-50, please provide the audit resolution memorandum for our review when NSF has obtained an acceptable Corrective Action Plan. The Plan should detail specific Academy actions taken and/or planned to address each audit recommendation. Milestone dates should be provided for corrective actions not yet completed.

We appreciate the cooperation that was extended to us during our review. If you have any questions, please contact Jerel Silver at extension 8461 or Mark Kim at extension 8531.

cc: Mary Santonastasso, Division Director, DIAS
Dale Bell, Deputy Division Director, DIAS
Alex Wynnyk, Branch Chief, CAAR/DIAS
Debra Pettit, Deputy Assistant Inspector General for Audits, NASA OIG

Audit Findings and Recommendations

Finding 1: The Academy Reported Incorrect Data in the Quarterly ARRA Reports

The Academy incorrectly reported several key data elements in its ARRA reports for the December 2009 and March 2010 reporting periods. For the December reporting period, the Academy incorrectly reported job numbers, total expenditures, total funds received, and vendor payments. In the March reporting period, the Academy corrected most of the reporting errors, but it continued to report the jobs number incorrectly.

Incorrect ARRA Jobs Numbers

Section 5.7 of OMB Memorandum M-10-08¹ requires prime recipients to generate estimates of jobs impact by directly collecting specific data from subrecipients and vendors on the total jobs created or retained on ARRA-funded projects and activities. In addition, the prime recipients are required to report jobs for its employees expressed as “full-time equivalents” (FTE), which is calculated as the number of hours worked in funded jobs created or retained divided by the number of hours worked in a full-time schedule, as defined by the recipient.

Contrary to the OMB requirements, the Academy incorrectly reported the jobs numbers in the December 2009 and March 2010 ARRA reports because it did not calculate jobs using the FTE methodology and did not include vendor jobs. Specifically, Academy officials mistakenly believed that only full-time employees working on the ARRA grant should be reported as jobs in the quarterly report. Therefore, the Academy did not include the Principal Investigator because the researcher had only devoted 50 percent effort to the ARRA project. In addition, the Academy officials did not review actual salary charges as a basis for reporting ARRA jobs. While the cognizant official stated that two full-time employees worked on the ARRA grant, our analysis of actual salary charges for both reporting periods disclosed that one employee worked 100 percent on the project and two others employees worked 50 percent each. While the reported count of two ARRA jobs reported for each reporting period was coincidentally correct, the methodology used was not compliant with the OMB-mandated FTE methodology.

In addition, the Academy did not appropriately include ARRA vendor jobs in the December 2009 and March 2010 reports because officials were not aware of this specific OMB reporting requirement. Our analysis found that the Academy had hired a consultant to develop web-pages related to the ARRA grant and had paid the consultant \$6,630 in the December reporting period and \$8,210 in the March reporting period. As such, the consultant’s FTEs should have been obtained from the vendor and added to CAS’ reported job numbers.

¹ OMB Memorandum M-10-08, *Updated Guidance on the American Recovery and Reinvestment Act – Data Quality, Non-Reporting Recipients, and Reporting of Job Estimates*, issued December 18, 2009.

Incorrect ARRA Expenditures and Funds Received

Section 2.5 of OMB Memorandum M-09-21² requires ARRA data elements to be cumulatively reported in order to encompass the total amount of funds received and expended to date. This requires that the December 31, 2009 report include funding from the NSF award date through December 31, 2009, with each subsequent quarterly report also delineated on a cumulative basis.

Contrary to OMB requirements, the Academy did not report the cumulative amounts for ARRA expenditures and funds received since grant inception in its December 2009 report. Instead, the Academy understated both of these data elements by \$1,332 because it reported the dollars expended and received only during the December quarter. The Academy correctly reported the cumulative amounts in the March 31, 2010 report.

Incorrect ARRA Vendor Payments

Section 2.4 and 2.5 of OMB Memorandum M-09-21 require recipients to report on a cumulative basis the total number and dollar of vendor payments under \$25,000 in each quarterly report. However, the Academy did not follow a consistent and reasonable methodology to compile and accurately report these two ARRA data elements. Although Academy officials informed us that they excluded “small expenditures” less than \$100 from the total vendor count and payment amount, we found some vendor payments under \$100 were mistakenly included while other payments over \$100 were excluded. For example, the Academy included a \$95 vendor payment but excluded a \$547 payment. In total, the Academy under-reported \$1,283 in ARRA vendor payments in the December 2009 report.

Increased Public Scrutiny on the Use of Recovery Act Funds

As a result of the errors identified in the four key ARRA data fields, the Academy has not effectively achieved the unprecedented accountability and transparency goals required by the Recovery Act. While the Academy only has one ARRA grant, the award totaling \$1.9 million is a significant amount of its NSF funding, thus it is essential that the American public and other stakeholders be provided accurate information on the number of ARRA jobs created or retained as well as the total amount of funds expended. Pursuant to its NSF grant terms and conditions, the Academy is obligated to provide accurate and complete reporting each quarter on how ARRA funds have been utilized to help stimulate the country's economic recovery.

² OMB Memorandum M-09-21, *Implementing Guidance for the Reports on Use of Funds Pursuant to the American Recovery and Reinvestment Act of 2009*, issued June 22, 2009

Factors Contributing to ARRA Reporting Errors

The reporting errors identified occurred because the Academy lacked (i) a thorough understanding of the intricacies of federal ARRA reporting requirements, (ii) formal established procedures for ARRA reporting, and (iii) an adequate data quality review process to preclude reporting errors. Specifically, cognizant officials responsible for ARRA reporting were uncertain about some of the OMB requirements because they had not received adequate instruction. As a small recipient with only one ARRA grant, officials were faced with the challenge of how to handle the increased responsibility of reading, interpreting, and correctly applying the extensive OMB reporting guidance. Given the volume and the complexity of the OMB guidance and the last minute changes prior to each ARRA reporting quarter, it was understandably a difficult task for Academy personnel. As such, we found that officials responsible for ARRA reporting were unaware of the following two key OMB reporting requirements: mandatory use of a full-time equivalent methodology for calculating jobs and reporting of vendor and subrecipient³ jobs.

The Academy lacked adequate policies and procedures for its ARRA reporting process. Although it had developed written federal grant management policies and procedures (e.g. Accounting Policy Manual), it lacked formal guidance for reporting and complying with new ARRA grant requirements. Since the Academy has only one ARRA award and two subawards,⁴ it is not critical for the Academy to develop extensive ARRA reporting policies and procedures. However, there does need to be some guidance, albeit, limited guidance established to provide adequate internal control measures to meet the enhanced accountability and transparency goals required by the Recovery Act.

Contrary to Section 4.2 and 4.3 of OMB Memorandum M-09-21,⁵ the Academy has not established adequate data quality review procedures to ensure all ARRA data elements are accurate, complete, and fully compliant with Section 1512 reporting guidance. Our review found that the Academy's supervisor responsible for reviewing the quarterly ARRA report does not evaluate the supporting documentation to verify the accuracy or completeness of key data elements. This occurred because supporting documentation is not always maintained to support each data element and forwarded with the ARRA report for quality review. For example, our review found that no documentation was maintained supporting the number of ARRA jobs reported. As such, the supervisor is only checking for any blank data fields and the overall reasonableness of the information without verifying that the key data elements are accurate and complete.

³ At the time of the audit, the Academy had issued only one subaward to a Canadian University; therefore, jobs reporting was not required for this foreign entity per OMB reporting guidance.

⁴ The Academy had issued one ARRA subaward and received a subaward funded by NSF ARRA funds.

⁵ OMB Memorandum M-09-21, *Implementing Guidance for the Reports on Use of Funds Pursuant to the American Recovery and Reinvestment Act of 2009*, issued June 22, 2009, requires "Prime recipients, as owners of the data submitted, [to] have the principal responsibility for the quality of the information submitted." Specifically, the prime recipient is responsible for performing data quality reviews to identify reporting errors and making appropriate and timely corrections.

Recommendations:

We recommend that the NSF Director of the Division of Institution and Award Support, coordinate with the oversight audit agency, as needed, to require the Academy to:

- 1.1 Establish and implement a policy to ensure staff members responsible for ARRA reporting stay informed of OMB and NSF changes and updates to Recovery Act reporting requirements and seek OMB and/or NSF technical assistance for clarification of any ambiguities.

OIG Comment

The subject recommendation was revised and redirected from NSF to the Academy in the final audit report. As such, the Academy should provide its comments to this recommendation, including any actions taken and/or planned, in its Corrective Action Plan during the formal NSF audit resolution process.

- 1.2 Improve internal control measures for ARRA reporting as follows:
 - a. Develop policies and procedures covering key aspects of ARRA reporting. At a minimum, such guidance should include processes for calculating ARRA jobs using the FTE methodology and including vendor job estimates, cumulative reporting of expenditures and funds received, and accurate reporting of vendor payments.
 - b. Establish a formal data quality review process to ensure ARRA quarterly reports are accurate, complete, and fully compliant with OMB reporting requirements.
 - c. Develop and maintain supporting documentation for key ARRA data elements with quarterly reports to allow for an effective data quality review process.

Academy Response

The Academy concurred with the finding and stated that its staff familiarized themselves with the ARRA reporting requirements, and it established additional policies and procedures addressing the reporting requirements for ARRA grants in its Accounting Guide. The Academy also stated that it had implemented new internal control measures to establish a formal data review process and to maintain supporting documentation.

OIG Comment

The Academy's response met the intent of the recommendation.

Finding 2: Subaward Did Not Include Required ARRA Terms and Conditions

NSF's ARRA Terms and Conditions require recipients to provide timely quarterly reporting, segregate the Recovery Act funds, and incorporate the ARRA-related terms and conditions into any subrecipient agreements. In addition, the NSF grant letter for the Academy's ARRA award explicitly stated that any subaward agreement include the flow-down provisions specified in Articles 8.a.4. and 9 of the standard NSF Grant General Conditions (GC-1).⁶ These Articles address the federal grant administrative requirements and cost principles.

However, the Academy did not, as required by NSF's award letter, incorporate the ARRA and standard NSF flow-down provisions in its \$231,084 subaward to a Canadian university. Specifically, the Academy did not (i) identify the subaward as being funded by the Recovery Act, (ii) require the segregation of such funds, and/or (iii) stipulate the quarterly ARRA reporting requirements. In addition, the subaward agreement lacked a key flow-down provision requiring compliance with federal grant administrative requirements and cost principles. Without reference to such grant standards, the Academy lacks any established criteria for determining whether the subrecipient's ARRA expenditures are reasonable, allowable, and allocable. This occurred because Academy officials were not aware that ARRA and certain standard NSF grant terms and conditions were explicitly required to be included in its subaward agreements.

The Academy's failure to incorporate the terms and conditions, as required by NSF's award letter, is inconsistent with enhanced Recovery Act transparency and accountability goals. Without adequate contractual subaward terms, the Academy had significantly compromised its ability to fulfill its responsibility to provide proper stewardship of its NSF grant funds. Essentially, it lacked any legal basis to ensure the Canadian subrecipient is properly managing and expending its Recovery Act funds in a way that is in keeping with U.S. Federal Government grant and ARRA requirements.

Recommendations:

We recommend that the NSF Director of the Division of Institution and Award Support, coordinate with the oversight audit agency, as needed, to require the Academy to:

- 2.1 Renegotiate its subaward agreement with University of Guelph to incorporate the required ARRA and NSF grant terms and conditions.
- 2.2 Establish a standard subaward agreement for federal grants to ensure appropriate flow-down provisions are included to ensure proper stewardship and accountability of federal assistance funds.

⁶ Articles 5 and 40 of the NSF Research Terms and Conditions include the same subaward flow-down provisions.

Academy Response

The Academy concurs with the finding and stated that it implemented the recommendations by incorporating an amendment to the original subaward to address the federal grant administrative and ARRA reporting requirements and by establishing a standard subaward agreement that includes the required flow-down provisions.

OIG Comment

The Academy's response met the intent of the recommendations.

Background, Objectives, Scope, and Methodology

Background:

Recovery Act Reporting Requirements:

On February 17, 2009, the American Recovery and Reinvestment Act of 2009 (Recovery Act or ARRA) was enacted to help the nation recover from a severe economic downturn. The Recovery Act emphasizes unprecedented levels of accountability and transparency over the \$787 billion of public funds committed by Congress, of which \$3 billion was received by NSF. The public expects that the use of ARRA funds will result in a positive impact to our nation's economy, including jobs creation and retention. Accordingly, Section 1512 of the Recovery Act requires recipients to submit reports on ARRA activity no later than 10 days after the end of each reporting quarter. The first ARRA quarterly report was required to be submitted for the period ending September 30, 2009.

ARRA reporting instructions are contained in the Office of Management and Budget (OMB) guidance. OMB is the primary Federal agency responsible for providing Section 1512 reporting guidance used by Federal agencies, grant recipients, and grant subrecipients. The Federal guidance clearly establishes that recipients have primary responsibility for the quality of data that is submitted. In addition, NSF has issued supplemental guidance to its recipients for ARRA reporting.

OMB published a Recipient Reporting Data Model to define the 99 data elements required to be reported for each ARRA grant for the September 2009 reporting period. Clarifications to the elements were published by OMB as a set of Frequently Asked Questions with extensive updates published to address both recipient and federal agency concerns; many of which were issued only a short time prior to the end of each ARRA reporting quarter. Some of the key data elements required to be reported include award number, date, and amount; award description; quarterly award activities; funds received/invoiced; award expenditures; number of and description of jobs retained or created; number and dollar of sub-awards and vendor payments; project status; and final report status.

NSF Recipient Reviewed:

The California Academy of Sciences (Academy) is a non-profit scientific and cultural institution located in San Francisco, CA. The Academy offers an aquarium, a planetarium, a natural history museum, and a rainforest to the public. As an international center for scientific education and research, the Academy employs 623 staff members, including over 50 professional educators and scientists, supported by more than 100 Research and Field Associates and over 300 Fellows. For the period ending June 30, 2010, the Academy's federal expenditures totaled \$1.1 million, including approximately \$954,000 provided by NSF.

As of March 31, 2010, the Academy had been awarded one ARRA grant for \$1.9 million, which accounted for 42 percent of its total NSF grant portfolio of \$4.6 million and 10 awards. ARRA expenditures totaled \$120,440 or 6.3 percent of total Recovery award funds as of March 31, 2010. At the time of our review, the Academy had issued one ARRA subaward to a foreign university and received one ARRA subaward funded by a NSF award. However, both the subaward issued and received had no expenditures.

The Academy's Financial Operations Group is responsible for the ARRA reporting and monitoring functions. Specifically, one employee is responsible for all ARRA reporting and monitoring, and the Controller is responsible for oversight of the reporting process.

Review Objectives:

Our review objectives were to determine whether the Academy had established an adequate system of internal controls to provide reasonable assurance that (1) Recovery Act funds were segregated and separately tracked in its project cost accounting system and (2) quarterly ARRA reporting was timely, accurate, and fully compliant with Section 1512 reporting requirements.

Scope and Methodology:

Our review focused on the Academy's December 2009 ARRA report, but included review of the March 2010 report to assess improvements made in its reporting processes. We reviewed the University's processes for compiling and reporting Recovery Act data elements. Of the 99 ARRA data fields required, we selected key elements that were either deemed critical to ensuring transparency or were considered more at risk of being reported inconsistently or inaccurately. Accordingly, our review focused on the following eight data elements: the number of jobs, funds received/invoiced, expenditures, vendor payments, sub-award amounts, Quarterly Activities/Project Description, project status, and final report status indicator. To gain an understanding of the Academy's processes for compiling and reporting of the ARRA data elements, we conducted a limited review of internal controls related to our audit objectives. Our review included the following steps:

- Reviewed criteria for ARRA reporting including Section 1512 of the Recovery Act and OMB and NSF guidance.
- Reviewed Academy policies, procedures, and processes for collecting, compiling, reviewing, and reporting ARRA data.
- Interviewed cognizant Academy officials, including the principal investigator, to gain an understanding of their role in the ARRA project management and reporting process.
- Performed analytical procedures to understand and evaluate the Academy's Recovery Act reporting processes and related controls. This included the processes for reporting Quarterly Activities/Project Description, project status,

and final project status; and ensuring ARRA funds are not awarded to debarred or suspended parties.

- Performed limited procedures to determine the reasonableness of the reported data elements when compared to supporting documentation for funds received/invoiced, expenditures, vendor payments, and sub-award amounts.
- Reconciled the number of jobs created or retained to payroll records to determine the reasonableness of the number of jobs reported for the ARRA grant.
- Discussed fieldwork results with Academy management officials.

We performed the on-site review at the Academy from May 3 to May 6, 2010. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan the review 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 the findings and conclusions contained in the report.

Academy Written Comments on Draft Report



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Academy Response to Audit Findings and Recommendations

Finding 1: The Academy Reported Incorrect Data in the Quarterly ARRA Reports

Incorrect ARRA Jobs Numbers

Academy Response:

We concur with this finding. The Academy staff continued to follow NSF general guidelines and was not aware of the additional jobs creation estimates requirement. The NSF guidelines at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=arra0509 did not illuminate the additional reporting requirements under Reporting and Registration Requirements so it was not clear to the PI or to the grants administrator that they needed to look further into Section 1512 of the American Recovery and Reinvestment Act of 2009. In accordance with NSF recommendations, this has been rectified and applicable staff is now familiar with the FTE calculation methodology, including vendors and consultants used.

Incorrect ARRA Expenditures and Funds Received

Academy Response:

We concur with this finding. However, the Academy had corrected the cumulative amounts as of the following quarter. The December report, for the ARRA grant only, was run with an incorrect start date whereby the 1,331.56 from the prior quarter was inadvertently excluded. All subsequent reports have been correct and internal grant reports, which are distributed regularly, correctly report Year To-Date *and* Total Project To-Date.

Incorrect ARRA Vendor Payments

Academy Response:

We concur with this finding. The only vendor payments that were purposefully excluded were minor payments that the PI had incurred on his corporate credit card. The grants administrator is now conducting a thorough review of all credit card activity to include such with each report.

Increased Public Scrutiny on the Use of Recovery Act Funds

Academy Response:

We concur with this finding. As a result of the NSF visit, the Academy staff members made it a priority to familiarize themselves with the specific requirements contained in Section 1512 of the Act. Subsequent quarterly reports are correctly reporting the four key data fields and clearly indicate how funds have been utilized to help stimulate the economic recovery.

Factors Contributing to ARRA Reporting Errors

Academy Response:

We concur with this finding. As noted above, the staff responsible for grant reporting quickly became familiar with the additional reporting requirements for the ARRA grant. As recommended by NSF, additional policies and procedures addressing the reporting requirements for ARRA grants have been added to the Accounting Guide. Information for the inclusion was gathered at http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-08.pdf and at http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_fy2009/m09-21.pdf. NSF's recommendation to improve internal control measures by establishing a formal data review process and include sufficient documentation to ensure the reports are accurate and complete has been instituted.

Finding 2: CAS Subaward Did Not Include Required ARRA Terms and Conditions

Academy Response:

We concur with this finding. This incident has provided the Academy with an opportunity to fine-tune its internal communication methods. We often find that even though the proposed budgets are carefully reviewed, staff members other than those who are applying for grants do not necessarily know what type of grants are being solicited. Coincidentally, the Academy established a temporary grant task force earlier this year to review and evaluate its processes and has since updated many. Of particular importance is that all grant proposals now stem from the Development department which has a clear step-by-step process in place that would eliminate incidents such as this. In addition, the recommendations provided by NSF have been incorporated in standard subaward agreements and an amendment to the original agreement has been completed. The signed amendment clearly outlines the additional reporting requirements in accordance with U.S. Federal Government grant and ARRA requirements.



1/19/2011
Date