



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

MEMORANDUM

Date: September 28, 2012

To: Mary F. Santonastasso, Director
Division of Institution and Award Support

Karen Tiplady, Director
Division of Grants and Agreements

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

Subject: Audit Report No. OIG-12-1-006
Drilling, Observation and Sampling of the
Earth's Continental Crust, Inc.

This memo transmits McBride Lock and Associate's audit of NSF Award Numbers EAR-0309707, EAR-0829286 and EAR-1060083 awarded to the Drilling, Observation and Sampling of the Earth's Continental Crust, Inc. (DOSECC). The audit determines the allowability of NSF-funded costs claimed from September 1, 2003 to September 30, 2011, totaling \$3,245,053 in costs claimed for the awards.

The auditors identified \$527,504 of questioned costs, of which [REDACTED] are excess indirect costs claimed due to the application of a revised final indirect cost rate, errors in payroll charges, and claiming of other direct costs not allowed by Federal regulations. An additional \$247,650 of costs lacked adequate documentation of payroll and vendor charges. Included in the \$527,504 of questioned costs are \$263,750 of costs reported in OMB A-133 reports that are being resolved by the NSF's Cost Analysis and Audit Resolution Branch. To avoid duplicate counting of questioned costs, the tables in our September 2012 OIG Semiannual Report to Congress will only report the \$263,754 in questioned costs that are not included in the OMB A-133 reports.

The auditors recommended that NSF address and resolve the recommendations made to DOSECC and ensure DOSECC's new or expanded policies and procedures are implemented, where appropriate. DOSECC, in its response dated August 31, 2012, stated that it has taken corrective action regarding many of these areas in recent years and determined that many of these problems identified in the audit have been corrected. DOSECC's response is described after the findings and recommendations and is included in its entirety in Appendix A.

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

We are providing copies of this memorandum to the Assistant Director, Directorate for Geosciences; Division Director of Earth Sciences (GEO/EAR); and the Program Director within the Division of Earth Sciences (GEO/EAR). The responsibility for audit resolution rests with the Division of Institution and Award Support, Cost Analysis and Audit Resolution Branch (CAAR). Accordingly, we ask that no action be taken concerning the report's findings without first consulting CAAR at 703-292-8244.

OIG Oversight of Audit

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

- Reviewed McBride Lock and Associates 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 McBride Lock and Associates and NSF officials, as necessary, to discuss audit progress, findings, and recommendations;
- Reviewed the audit report, prepared by McBride Lock and Associates to ensure compliance with Government Auditing Standards; and
- Coordinated issuance of the audit report.

McBride Lock and Associates is responsible for the attached auditor's report on DOSECC and the conclusions expressed in the report. We do not express any opinion on the conclusions presented in MLA's audit report.

We thank your staff for the assistance that was extended to our auditors during this audit. If you have any questions regarding this report, please contact Jannifer Jenkins at 703-292-4996.

Attachment

cc: Margaret Cavanaugh, Assistant Director, GEO /OAD
Wendy Harrison, Division Director, GEO/EAR
David Lambert, Division Director, GEO/EAR

**Drilling, Observation and
Sampling of the Earth's
Continental Crust, Inc.**

675 S. Arapeen Drive, Suite 201
Salt Lake City, Utah 84158-0857

Independent Auditors'
Performance Audit Report on
National Science Foundation
Award Numbers EAR-0309707,
EAR-0829286 and EAR-1060083

For the period from September 1, 2003 to September 30, 2011

McBride, Lock & Associates
1111 Main Street
Suite 900
Kansas City, MO 64105

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
Audit Objectives	1
Summary of Audit Results	2
Findings	3
Exhibit A – Summary of Questioned Costs by Award	13
Exhibit B – Detail of Questioned Costs	14
Appendix A – DOSECC Response	17
Appendix B – Objectives, Scope, and Methodology	22

Introduction

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science, to advance the national health, prosperity, and welfare, and to secure the national defense. The NSF is the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities. NSF issues awards to universities, individuals, and small groups of investigators and provides funding for research centers, instruments and facilities that allow scientists, engineers and students to work at the outermost frontiers of knowledge.

The NSF has funded awards to a non-profit organization entitled Drilling, Observation and Sampling of the Earth's Continental Crust, Inc. (DOSECC). DOSECC has approximately 10 employees and participates in a consortium with 57 members, most of which are universities that benefit from the research conducted. The stated mission of DOSECC is to provide leadership and technical support in subsurface sampling and monitoring technology for addressing topics of scientific and societal importance. DOSECC has one completed NSF award of approximately \$2.9 million and one substantially completed NSF award of approximately \$244 thousand. DOSECC also received an NSF award of approximately \$170 thousand, effective September 30, 2011, with projected funding of \$1.2 million. This award was terminated by NSF effective July 19, 2012.

Audit Objectives

The firm of McBride, Lock & Associates was engaged by the NSF's Office of Inspector General (OIG) to conduct an audit to determine the allowability of costs claimed by DOSECC under NSF awards EAR-0309707 for \$2,959,143 and EAR-0829286 for \$243,962. Limited procedures consisting of the review of \$41,948 of award costs claimed and incurred prior to the award effective date of September 30, 2011 were also requested and performed with respect to award EAR-1060083¹. The audit period was from inception of award EAR-0309707, September 1, 2003, through September 30, 2011. The specific objective of the audit of NSF funds at DOSECC was to identify costs claimed on the NSF awards that are not allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal grant requirements for the period of expenses (September 2003 – September 2011) that were recorded by DOSECC on its general ledger and claimed in its September 30, 2011 Federal Financial Report (FFR) submitted to NSF.

¹Subsequent to the Exit Conference held with DOSECC on July 17, 2012, it came to the auditors' attention that Award 1060083 was terminated by NSF on July 19, 2012.

Summary of Audit Results

The audit resulted in the identification of \$527,504 of questioned costs, of which [REDACTED] are unallowable charges to NSF awards due to claiming reimbursements pursuant to a provisional indirect cost rate rather than the subsequently revised final rate, errors in payroll charges, and claiming of other direct costs not allowed by Federal regulations. An additional \$247,650 of costs lacked adequate documentation of payroll charges and vendor purchases. Included in the \$527,504 of questioned costs are \$263,750 of costs which pertain to findings included in reports issued by other independent auditors pursuant to Office of Management and Budget (OMB) Circular A-133 and which, as of the date of this report, were being resolved by the NSF's Cost Analysis and Audit Resolution Branch.

We recommended that NSF's Director of the Division of Institution and Award Support address with DOSECC and resolve the questioned costs cited above and ensure that new or expanded policies and procedures are implemented where appropriate.

McBride, Lock & Associates
August 10, 2012

Findings

Finding No. 1 – Excess Indirect Costs Claimed

Indirect costs were claimed based upon provisional rates, because final negotiated rates were not available until July 2012, which resulted in a decrease to allowable indirect costs under NSF award EAR-0309707. As of the date of this report, NSF is resolving the related questioned costs, previously identified in DOSECC's OMB A-133 reports. Therefore, the excess indirect costs claimed by DOSECC have not yet been returned to NSF.

Indirect costs are governed by the provisions of 2 Code of Federal Regulations (CFR) 230 (formerly OMB Circular A-122), *Costs Principles for Non-Profit Organizations*, which provides for the allocation of allowable indirect costs to benefiting cost objectives pursuant to an equitable distribution base. An indirect cost rate measures the proportion of allowable indirect costs to the distribution base, and is used to distribute indirect costs to individual awards. The rate is expressed as the percentage which the total amount of allowable indirect costs bears to the base selected.

DOSECC was assigned a provisional indirect cost rate for use in estimating and reporting indirect costs charged to federal awards. 2 CFR 230 Attachment A to OMB Circular A-122, Section E. Negotiation and Approval of Indirect Cost Rates, E.1.e, defines a provisional rate to mean a "temporary indirect cost rate applicable to a specified period which is used for funding, interim reimbursement, and reporting indirect costs on awards pending the establishment of a final rate for the period." A final rate is defined by 2 CFR 230 as an indirect cost rate applicable to a specified past period which is based on the actual costs of the period. A final rate is not subject to adjustment. Additionally, NSF has prescribed to DOSECC indirect cost rates associated with specific mini-proposals that constitute components of an overall NSF award.

In 2009 DOSECC began reviewing all costs charged to NSF award EAR-0309707 including the associated indirect costs. DOSECC determined that indirect and fringe benefit costs had been claimed based on indirect cost rates that exceeded their proposed final rates approved by NSF. An amount approximating excess indirect costs claimed was calculated by DOSECC and accrued as a liability which is reported in the DOSECC audited financial statements for the year ended December 31, 2011. On July 11, 2012, DOSECC received notification from NSF of the final indirect cost rates for the years 2003 through 2008, applicable to award EAR-0309707. The calculation of excess indirect costs was reviewed by NSF, as cognizant agency, and was adjusted to reflect the proposed final indirect cost rates set forth in the Rate Agreement dated July 11, 2012, modified to ensure the final rates did not exceed the maximum provisional rates. The final amount determined to represent the effect of the excessive overhead and fringe benefit rates was [REDACTED]. This amount represents charges to NSF award EAR-0309707 that exceeded approved and allowable levels, and which therefore constitute questioned costs of [REDACTED] which pertain to the findings questioned in the OMB A-133 reports.

Recommendation No. 1

We recommend that NSF's Director of the Division of Institution and Award Support address and resolve the recommendation that DOSECC return the questioned costs to NSF.

Awardee's Comments

DOSECC used the maximum provisional indirect cost rates provided in the award documents to track the expenses charged to the grant EAR0309707 from 2003 to 2008. DOSECC did not receive ICR determination for the period of the grant until July 2012, four years after the 5 year grant ended. The indirect cost reports submitted by DOSECC to NSF for the grant period did not receive any conclusive feedback that would have allowed DOSECC to adjust its ICR calculations and process differences on a yearly basis. DOSECC believes that NSF is also at fault by not performing timely ICR determinations on an annual basis. This has not allowed DOSECC to close on a yearly basis the funds awarded by the grant. It is worth mentioning that DOSECC never received an ICR determination for FY 2002 until this date.

DOSECC made every effort to identify this difference with the help of its auditors and accrued a liability in its FY 2009 audit report. As the specific rules to determine ICR for DOSECC became clearer, the liability grew in FY 2011 to a level that is close to the level identified by the OIG audit.

DOSECC agrees with the OIG conclusion of a difference of [REDACTED] due to the application of provisional ICRs. In the meantime, DOSECC has established an improved indirect cost system with CAAR's approval and support to determine the ICR. Based on that system, NSF has finalized the ICR rates for FY 2009/2010/2011.

Auditor's Response

DOSECC's comments are responsive to the finding and recommendation. The \$201,130 excess indirect costs charge to award EAR-0309707 has been increased to \$234,154 based upon the application of a provisional rate negotiated for 2006. The finding should not be closed until DOSECC returns the questioned costs.

Finding No. 2 – Inadequate Payroll Documentation

During the initial years of award EAR-0309707 (2003 through 2007), the Institution had numerous instances of inadequate payroll documentation to support the charges to the federal award. Audit procedures also identified instances of not applying costs in proportion to the relative amount of time expended on the award, and one instance of payroll not based on a documented pay rate approved by a responsible official of the organization.

2 CFR 220 (formerly OMB Circular A-122), *Cost Principles for Non-Profit Organizations*, addressed required support for salaries and wages charged to federal awards. Specifically, Attachment B.8.m.(2)(c), pertains to reporting of labor effort and states that “The reports must be signed by the individual employee, or by a responsible supervisory official having first-hand knowledge of the activities performed by the employee, that the distribution of activity represents a reasonable estimate of the actual work performed by the employee during the periods covered by the reports.”

Attachment B.8.m.(1) states that “charges to awards for salaries and wages, whether treated as direct costs or indirect costs, will be based on documented payrolls approved by a responsible official(s) of the organization.”

Attachment B.8.g.(1), states that “Fringe benefits in the form of regular compensation paid to employees during periods of authorized absences from the job, such as vacation leave, sick leave, military leave, and the like, are allowable, provided such costs are absorbed by all organization activities in proportion to the relative amount of time or effort actually devoted to each.”

The sample selection of 30 payroll transactions revealed 1 payment not based on a documented pay rate approved by a responsible official of the organization. There were 2 instances of the organization not charging costs to its NSF awards in proportion to the relative amount of time or effort actually expended on the award as set forth on effort reporting documents. These three instances represent \$2,923 in salaries. When fringe benefits of [REDACTED] and indirect costs of [REDACTED] are considered, questioned costs due to these 3 exceptions total \$4,783.

Our inspection of the sample selected for testing also disclosed 6 instances in which the PI’s time sheet was either not signed or not provided as part of the payroll documentation. The PI was also the [REDACTED]. We expanded our testing to cover additional time periods and learned that 27 timesheets for the last three bi-weekly pay periods in 2005 and all of 2006 were not signed by the PI or a responsible supervisory official with direct knowledge of the work performed. Time sheets tested from periods prior to 2005 were observed to have been signed. We were informed that, during 2005 and 2006, the failure to sign timesheets was due to the PI’s absence while on-site at drilling projects and further that, during this period, he communicated periodically, by phone and email, with administrative staff in his office in order to apprise them of his activities. The PI also maintained daily work journals in which he recorded the nature of his activities, meetings, telephone calls and similar events. A review and comparison of selected entries set forth in the journals to labor effort charged revealed no inconsistencies. However, there are no signed time sheets or effort reports supporting the labor hours charged to the NSF award EAR-0309707 during the period as required. The 27 unsigned or missing time sheets represent \$122,024 of unsupported costs consisting of \$70,106 of salaries, [REDACTED] of fringes and [REDACTED] of overhead. Therefore, NSF will have to determine the allowability of the costs during its audit resolution process.

We also noted that a DOSECC employee’s status changed from full-time to three-quarter time effective July 1, 2007. However, his labor costs continued to be charged to the NSF award at the full-time rate until April 9, 2008. The additional hours charged to NSF amounted to \$4,133 in salaries, \$1,511 in fringe benefits and [REDACTED] in overhead costs, for a total of [REDACTED]

In August of 2008 an offer letter was submitted by DOSECC to a potential employee for the position of Operations and Engineering Manager with a salary of \$92,000. The letter acknowledged the offeree's interest in continuing to build a company, [REDACTED], which provides equipment fabrication services, and stated that [REDACTED]

[REDACTED] Specifically, we noted that the budget justification submitted by DOSECC to NSF as part of the proposal for award EAR-0829286 stated that, in the area of Consultant Services, [REDACTED]

[REDACTED] The proposal budget included [REDACTED] for these consultant services over the 5 years of the award.

Upon assuming the position of Operations and Engineering Manager at DOSECC, the employee was placed on full-time status, which is inconsistent with the acknowledgement that the employee would continue to build a private company and would receive the benefits of DOSECC efforts to promote the company. Further, it is unclear whether NSF was advised that the consulting firm [REDACTED] proposed to be used in the project was in fact owned and operated by a DOSECC employee.

The hours of labor effort expended on the private company that potentially reduce labor hours available to DOSECC and specifically the NSF award are not known but can be assumed to be greater than zero. Therefore, the support for the level of costs salaries, fringe benefits and indirect costs charged to the award and to the indirect cost pool for this individual is deemed to be unreliable and not adequately documented. Absent a more precise measurement of the impact of this deficiency on charges to the NSF awards, we are questioning as unsupported costs amounts charged to NSF awards for this individual through September 30, 2011, amounting to \$22,494, consisting of \$13,207 in salary, [REDACTED] in fringe benefits and [REDACTED] in indirect costs.

Incomplete or missing documentation of approved pay rates and hours expended on federally-funded awards reduces the assurance that effort charged to a sponsored award was in fact effort expended. Failure to have documentation of approved pay rates and errors in the calculations of pay allocation lessens the assurance that job costs are appropriately and accurately calculated. These deficiencies in payroll processing and documentation, coupled with the unallowable charges for full-time effort paid to a part-time employee, result in total questioned costs of \$155,924.

Deficiencies in the payroll documentation system resulted from lack of understanding of the importance of supporting salary charges with documented, signed time and effort reports in 2005 and 2006, as well as clerical errors and oversights. During these years the organization did not have adequate policies and procedures to ensure documentation of all labor charges to federal awards. Subsequent to 2006, the organization implemented a new timesheet system and, in 2009 DOSECC retained a new Chief Financial Officer and accounting staff. These finance and accounting personnel have developed, implemented and communicated comprehensive policies and procedures for the accounting and administration of federal awards. None of the above conditions happened after the implementation of the new system and retention of new finance and accounting personnel.

Recommendation No. 2

We recommend that NSF's Director of the Division of Institution and Award Support address and resolve the following recommendation that DOSECC:

- a. Review DOSECC's systems to ensure that all full-time employees are in fact expending full-time effort and that no conflict of interest exists with respect to use of employee-owned companies providing services on federally-funded projects.
- b. Work with NSF to resolve the unsupported costs cited above.

Awardee's Comments

DOSECC started a full review of its procedures in FY 2009 as requested by NSF. This resulted in a precise system to track time and effort. The OIG report confirmed this development. DOSECC also eliminated potential conflict of interest situations terminating any work performed by an employee's personal firm.

The administrative oversight that led DOSECC to continue paying a full time salary to an employee with reduced work load was corrected in April 2008, i.e. well before this OIG audit.

NSF, Division of Grants and Agreements performed a review of our policies and procedures in 2007 and we responded in July 2008 that a comprehensive manual would be complete in 2009. NSF knew back in 2007 that our internal controls with respect to timekeeping required improvement and we finalized these policies in 2009. Since then, we have had A-133 audits, voluminous inquiries from NSF and OIG audit. Though we improved our current system, we acknowledge the auditor's concerns on missing timesheet signatures for 2005 and 2006. It is impossible for us to fix this historical problem and other matters you mentioned in Finding 2 of this audit.

The auditor states that there is not adequate documentation, and thus questions \$128,382 in loaded labor cost. DOSECC does not concur with the disallowance of said cost based on it being "unsupported." There is other corroborating evidence such as diaries and other items that the auditor stated was not inconsistent that supports the allowability of said loaded labor charges. We agree that the controls for time reporting with employee signature requires improvement, but that does not automatically infer that said costs are disallowed or put by the auditor in "limbo" as "unsupported" and let the parties resolve.

If you review section 8m of OMB Circular A-122, Attachment B, it does require employee signatures but it does not state, that a lack of signature means "unsupported" or disallowed cost. If DOSECC and NSF do not agree on the disallowance of this cost, these disallowed costs will be challenged in arbitration or be appealed to the board of contract appeals. We are confident that the basis of our appeal will be predicated on the fact that the administrative court justices will ultimately decide whether there is evidence that the labor cost was indeed incurred on the aforementioned grant. We have proved with other corroborating documents that this cost was indeed incurred in support of the NSF grant. We are also willing to provide sworn affidavits by the CEO to attest to this fact. Ultimately, the administrative justices will rule as to whether the

work was performed and substantiated by other supporting data. We are confident that these costs that are inappropriately disallowed as “unsupported” would be reinstated by a higher authority.

The auditor’s report states that the support for the level of loaded salaries charged to the award for Chris Delahunty is deemed to be unreliable and not adequately documented. It concludes with \$22,494 questioned costs. The use of DOSECC Director of Operations firm, CphiD, was marginal in 2008 and 2009 when it was interrupted. The consulting services of CphiD were never used for an NSF grant as illustrated in the offer statement; the use of CphiD was intended for commercial work. The hours demonstrated by time sheet for the Director of Operations are totally documented. The hours expended on the private company did not reduce labor hours available to DOSECC due to the nature of the activities developed outside of normal business hours. Ultimately, the time load dedicated to DOSECC did not leave Chris Delahunty with much time to develop his business which is actually currently much diminished. DOSECC does not concur with disallowing \$22,494 because the timesheets recorded for the Director of Operations are accurate and do not overlap with CphiD activities in part because of the heavy travel load the Director of Operations had. It would have been impossible for Chris Delahunty, for example, to develop CphiD when in the far North Eastern part of Russia on mission for DOSECC.

Auditor’s Response

DOSECC’s comments are responsive to the finding and recommendation. The \$128,382 in unsupported labor costs has been decreased to \$122,024 based upon the application of a provisional rate negotiated for 2006. The finding should not be closed until NSF determines that the recommendation has been adequately addressed, the proposed corrective actions have been satisfactorily implemented and NSF has resolved the questioned costs.

Finding No. 3 – Noncompliance with Procurement Documentation Requirements

Our audit procedures identified purchases that did not have approvals that were adequately documented, were not allowable under federal cost principles, or were not related to the federal award.

Federal regulations and specifically 2 CFR 215 (formerly OMB Circular A-122) requires that all costs reimbursed by federal awards be allowable, allocable and reasonable, and be incurred pursuant to a sound financial management system. Further, Appendix A, Subpart C to 2 CFR 215 prescribes standards for financial management systems and methods for making payments. It states, in part, that recipients' financial management systems shall provide effective control over and accountability for all funds, property and other assets and accounting records including cost accounting records that are supported by source documentation.

The sample selection of 32 disbursements revealed that invoices supporting 9 disbursements totaling \$89,107 in amount did not have documented evidence of approval. The 9 unsigned invoices represent 28% of the total 32 invoices inspected amounting to \$337,541. We were informed that the [REDACTED] who was responsible for approving purchases did not consistently document his approval on vendor invoices. However, the [REDACTED] represented that [REDACTED] was aware of all significant purchases and manually signed substantially all checks for

payment of the related invoices. Cancelled checks were examined for each of the 9 unsigned invoices and were found to have the [REDACTED] manual signature on the check. The CEO traveled extensively to drilling locations during the period of award EAR-0309707. During this period, which was prior to the employment of a Chief Financial Officer, it was not considered necessary to document CEO approval of vendor invoices prior to payment. No invoices were identified as paid without documented approval subsequent to 2008.

The absence of authorized signatures documenting approval for charges to federal awards reduces the assurance that such charges were reviewed for consideration as to whether the related costs were allowable, allocable and reasonable, as required by federal cost principles. Failure to document review and approve disbursements is not consistent with the characteristics of a sound financial management system. These costs are considered to be unsupported and therefore questioned in the amount of \$103,132, consisting of \$89,107 of direct costs and [REDACTED] of associated indirect costs. Otherwise, no instances were noted in which the charges did not appear to be reasonable, allowable and allocable. Further, subsequent to the years in which these unallowable charges were noted, DOSECC adopted, implemented and documented policies and procedures to address the criteria for allowable costs and specify that only costs meeting these criteria may be charged to Federal awards. Training was also provided to employees to ensure understanding and awareness of these policies and procedures. Therefore, NSF will have to determine the allowability of the costs during its audit resolution process.

We noted 1 payment in the amount of \$2,390 which appeared to represent the purchase of alcoholic beverages during an event, a payment representing a bartending tab of \$400, a payment of \$355 that represented costs to attend a DOSECC Board of Director's meeting (which, while not related to or chargeable to the NSF award, could have been included in the indirect cost pool), and a payment of \$500 as a bonus to a contractor which was not provided for in his agreement, all of which were improperly charged to NSF award No. EAR-0309707. Upon further investigation into these charges, we learned that, as part of a comprehensive review of award charges, DOSECC had previously identified these unallowable costs, amounting to \$3,645, and additional charges amounting to \$25,951, which they determined to be unallowable. The total of these charges to NSF awards was \$29,596. These charges, which include the unallowable costs identified during this audit, have been recorded as a liability in the audited DOSECC financial statements.

As discussed in Finding No. 1, DOSECC's independent A-133 auditors also questioned this dollar amount. Accordingly, \$263,750 (\$29,596 and \$234,154) remain as outstanding funds due NSF.

Recommendation No. 3

We recommend that NSF's Director of the Division of Institution and Award Support address and resolve the following recommendation that DOSECC:

- a. Ensure DOSECC personnel adhere to their existing policy requiring documented approvals on all invoices.
- b. Work with NSF to resolve the questioned costs cited above.

Awardee's Comments

An enhanced formal procurement process was implemented fully in 2009 and that weakness is now totally corrected as evidenced by the approval of invoices to NSF under the special payment status.

As mentioned in the OIG report, this lack of adequate documentation occurred in the years 2005/2006 and 2007. The OIG report clearly states that the final authorization represented by the check was signed personally by the CEO. No expenses are questioned in terms of their intrinsic justification. The problem is formalization of the procurement process.

DOSECC also identified unallowable expenses proactively as mentioned in the OIG report and included that amount in the potential liability with NSF in the FY 2010 audit report.

DOSECC does not concur with the disallowance of \$105,843 in “unsupported cost” merely because there were no procurement approvals. Since all of this cost was charged in the performance of work on the aforementioned grant, DOSECC must be reimbursed for all work performed even though there were no procurement approvals. For the same reasons discussed under Finding 2 of this audit report, DOSECC would challenge the disallowance of items purchased to a higher authority if NSF does not reinstate them as allowable. We are ready to provide sworn affidavits that these costs are necessary for the performance of the NSF grants.

Auditor's Response

DOSECC's comments are responsive to the finding and recommendation. The \$105,843 in unsupported procurement approvals has been decreased to \$103,132 based upon the application of a provisional rate negotiated for 2006. These costs were questioned because the support provided does not meet the requirements of OMB Circular A-122. Invoices were not documented as approved and another person was an authorized check signer. There is no evidence that the signer or anyone else in a responsible position even viewed the invoices without this documentation. The finding should not be closed until NSF determines that the recommendations have been adequately addressed, the proposed corrective actions have been satisfactorily implemented and NSF has resolved the questioned costs.

Finding No. 4 – Compliance with Travel Regulations

Our audit procedures found one instance of non-compliance with the Fly America Act. The PI used a non code-sharing airline to fly from Seattle, Washington to Seoul, Korea.

National Science Foundation (NSF), *Grant General Conditions (GC-1)*, requires the use of U.S.-Flag Air Carriers.

NSF GC-1, 10.c.1-3 states that:

1. In accordance with the Fly America Act, any air transportation to, from, between, or within a country other than the U.S. of persons or property, the expense of which will be assisted by NSF funding, must be performed by or under a code-sharing arrangement with a U.S.-flag air carrier if service provided by such a carrier is available. Tickets (or documentation for electronic tickets) must identify the U.S. flag air carrier's designator code and flight number.
2. For the purposes of this requirement, U.S.-flag air carrier service is considered available even though: (a) comparable or a different kind of service can be provided at less cost by a foreign-flag air carrier; (b) foreign-flag air carrier service is preferred by, or is more convenient for, NSF or traveler; or (c) service by a foreign-flag air carrier can be paid for in excess foreign currency.
3. The following rules apply unless their application would result in the first or last leg of travel from or to the U.S. being performed by a foreign-flag air carrier: (a) a U.S.-flag air carrier shall be used to destination or, in the absence of direct or through service, to the farthest interchange point on a usually traveled route. (b) if a U.S.-flag air carrier does not serve an origin or interchange point, a foreign-flag air carrier shall be used only to the nearest interchange point on a usually traveled route to connect with a U.S. flag air carrier."

The sample selection of 23 travel expenditures revealed 1 expenditure that was not in compliance with the policies set forth in the NSF General Grants & Conditions. The PI took a flight from Seattle, WA to Hanoi, North Vietnam, with a connection in Seoul, Korea. This flight was booked on [REDACTED] which does not have a code-sharing arrangement with a U.S.-flag air carrier. The cost of the flight was [REDACTED]. While it is not practical to determine the availability of flights on other airlines on the date of this travel occurring in February 2011, in August of 2012, [REDACTED] each operated flights, using code-share partners, between Seattle and Hanoi at costs beginning at [REDACTED].

The booking of the flight on [REDACTED] which is not a code-sharing partner of a U.S.-flag air carrier, caused the organization to violate the Fly America Act and results in a questioned cost of [REDACTED] consisting of [REDACTED] of direct costs and [REDACTED] of indirect costs.

DOSECC personnel assumed that, because [REDACTED] is part of the [REDACTED] loyalty program, it also had a code-sharing agreement with [REDACTED].

Recommendation No. 4

We recommend that NSF's Director of the Division of Institution and Award Support address and resolve the following recommendation that DOSECC:

- a. Communicate to affected personnel the importance of ensuring that NSF-funded airline travel occurs only on U.S.-flag air carriers or those with code-sharing arrangements with U.S.-flag air carriers.

- b. Implement procedures to include review of proposed airline travel for compliance with NSF requirements to fly U.S.-flag air carriers or their code-sharing partners.
- c. Work with NSF to resolve the questioned costs cited above.

Awardee's Comments

The travel was not to Seoul as mentioned in the report, but to Hanoi – Vietnam. There is no US carrier serving Hanoi. [REDACTED] partner, serves Hanoi and was chosen under the assumption that it had a code sharing partnership with [REDACTED]. The flight from Seattle to Seoul connected with the flight to Hanoi. Finally, the cost of [REDACTED] was for the total distance to Hanoi and not for the leg Seattle – Seoul. The Fly America Act form could have been filled out at the time. Therefore DOSECC does not concur with the disallowance of [REDACTED] based on it being “unsupported.”

This issue of identifying correctly cost-share has been corrected since the OIG audit and personnel have been trained accordingly.

Auditor's Response

DOSECC's comments are not responsive to the finding and recommendation, and fail to recognize the existence of flights from Seattle to Hanoi on U.S.-flag air carriers at rates significantly less than the [REDACTED] charged. The finding should not be closed until NSF determines that the recommendations have been adequately addressed, the proposed corrective actions have been satisfactorily implemented and NSF has resolved the questioned costs.

Exhibit A

Drilling, Observation and Sampling of the Earth's
Continental Crust, Inc.

Award Numbers EAR-0309707, EAR-0829286 and EAR-1060083
Summary of Questioned Costs by Award

Period from September 1, 2003 through September 30, 2011

Finding Number	Finding Description	Award	Questioned Costs		Under A-133 Resolution by NSF-CAAR	Total
			Disallowed	Unsupported		
1	Excess indirect costs	0309707	\$ -	\$ -	\$ [REDACTED]	[REDACTED]
2	Payroll miscalculated	0309707	4,783	-	-	4,783
2	Unsigned time sheets	0309707	-	122,024	-	122,024
2	Excess labor charges	0309707	6,623	-	-	6,623
2	Unsupported labor effort	0829286	-	22,494	-	22,494
3	Procurement Approvals	0309707	-	103,132	-	103,132
3	Unallowable Procurements	0309707	-	-	[REDACTED]	29,596
4	Non-US Flag Carrier	1060083	4,698	-	-	4,698
			<u>\$ 16,104</u>	<u>\$ 247,650</u>	<u>\$ [REDACTED]</u>	<u>[REDACTED]</u>

Exhibit B Contains Proprietary Information and is Fully Redacted

Appendix A – DOSECC Response



08/31/2012

Re: DOSECC Response to the Findings presented in the OIG Performance Audit Report on the National Science Foundation Award Numbers EAR-0309707, EAR-0829286, and EAR-1060083

Dear Mrs. McBride:

Please find below DOSECC comments to the findings in your report.

Finding No. 1 – Excess Indirect Cost Claimed

DOSECC used the maximum provisional indirect cost rates provided in the award documents to track the expenses charged to the grant EAR0309707 from 2003 to 2008. DOSECC did not receive ICR determination for the period of the grant until July 2012, four years after the 5 year grant ended. The indirect cost reports submitted by DOSECC to NSF for the grant period did not receive any conclusive feedback that would have allowed DOSECC to adjust its ICR calculations and process differences on a yearly basis. DOSECC believes that NSF is also at fault, by not performing timely ICR determinations on an annual basis. This has not allowed DOSECC to close on a yearly basis the funds awarded by the grant. It is worth mentioning that DOSECC never received an ICR determination for FY 2002 until this date.

DOSECC made every effort to identify this difference with the help of its auditors and accrued a liability in its FY 2009 audit report. As the specific rules to determine ICR for DOSECC became clearer, the liability grew in FY 2011 to a level that is close to the level identified by the OIG audit.

DOSECC agrees with the OIG conclusion of a difference of \$201,130 due to the application of provisional ICRs. In the meantime, DOSECC has established an improved indirect cost system with CAAR's approval and support to determine the ICR. Based on that system, NSF has finalized the ICR rates for FY 2009/2010/2011.

Finding No. 2 – Inadequate Payroll Documentation

DOSECC started a full review of its procedures in FY 2009 as requested by NSF. This resulted in a precise system to track time and effort. The OIG report confirmed this development.

DOSECC also eliminated potential conflict of interest situations terminating any work performed by an employee's personal firm.

The administrative oversight that led DOSECC to continue paying a full time salary to an employee with reduced work load was corrected in April 2008, i.e. well before this OIG audit.

NSF, Division of Grants and Agreements performed a review of our policies and procedures in 2007 and we responded in July 2008 that a comprehensive manual would be complete in 2009. NSF knew back in 2007 that our internal controls with respect to timekeeping required improvement and we finalized these policies in 2009. Since then, we have had A-133 audits, voluminous inquiries from NSF and OIG audit. Though we improved our current system, we acknowledge the auditor's concerns on missing timesheet signatures for 2005 and 2006. It is impossible for us to fix this historical problem and other matters you mentioned in Finding 2 of this audit.

The auditor states that there is not adequate documentation, and thus questions \$126,382 in loaded labor cost. DOSECC does not concur with the disallowance of said cost based on it being "unsupported". There is other corroborating evidence such as diaries and other items that the auditor stated was not inconsistent that supports the allowability of said loaded labor charges. We agree that the controls for time reporting with employee signature requires improvement, but that does not automatically infer that said costs are disallowed or put by the auditor in "limbo" as "unsupported" and let the parties resolve.

If you review section 8m of OMB Circular A-122, Attachment B, it does require employee signatures but it does not state that a lack of signature means "unsupported" or disallowed cost. If DOSECC and NSF do not agree on the disallowance of this cost, these disallowed costs will be challenged in arbitration or be appealed to the board of contract appeals. We are confident that the basis of our appeal will be predicated on the fact that the administrative court justices will ultimately decide whether there is evidence that the labor cost was indeed incurred on the aforementioned grant. We have proved with other corroborating documents that this cost was indeed incurred in support of the NSF grant. We are also willing to provide sworn affidavits by the CEO to attest to this fact. Ultimately, the administrative justices will rule as to whether the work was performed and substantiated by other supporting data. We are confident that those costs that are inappropriately disallowed as "unsupported" would be reinstated by a higher authority.

The auditor's report states that the support for the level of loaded salaries charged to the award for Chris Delahanty is deemed to be unreliable and not adequately documented. It concludes with \$22,493 questioned costs. The use of DOSECC Director of Operations firm, [REDACTED] was marginal in 2008 and 2009 when it was interrupted. The consulting services of [REDACTED] were never used for an NSF grant as illustrated in the offer statement, the use of [REDACTED] was intended for commercial work. The hours demonstrated by time sheet for the Director of Operations are totally documented. The hours expended on the private company did not reduce

labor hours available to DOSECC due to the nature of the activities developed outside of normal business hours. Ultimately, the time load dedicated to DOSECC did not leave [REDACTED] with much time to develop his business which is actually currently much diminished. DOSECC does not concur with disallowing \$22,494 because the timesheets recorded for the Director of Operations are accurate and do not overlap with [REDACTED] activities in part because of the heavy travel load the Director of Operations had. It would have been impossible for [REDACTED] for example, to develop [REDACTED] when in the far North Eastern part of Russia on mission for DOSECC.

Finding No. 3 – Noncompliance with Procurement Documentation Requirements

An enhanced formal procurement process was implemented fully in 2009 and that weakness is now totally corrected as evidenced by the approval of invoices to NSF under the special payment status.

As mentioned in the OIG report, this lack of adequate documentation occurred in the years 2005/2006 and 2007. The OIG report clearly states that the final authorization represented by the check was signed personally by the [REDACTED]. No expenses are questioned in terms of their intrinsic justification. The problem is formalization of the procurement process.

DOSECC also identified unallowable expenses proactively as mentioned in the OIG report and included that amount in the potential liability with NSF in the FY 2010 audit report.

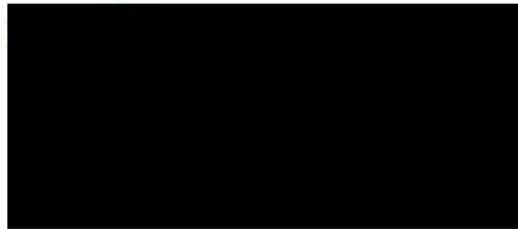
DOSECC does not concur with the disallowance of \$105,843 in "unsupported cost" merely because there were no procurement approvals. Since all of this cost was charged in the performance of work on the aforementioned grant, DOSECC must be reimbursed for all work performed even though there were no procurement approvals. For the same reasons discussed under Finding 2 of this audit report, DOSECC would challenge the disallowance of items purchased to a higher authority if NSF does not reinstate them as allowable. We are ready to provide sworn affidavits that these costs are necessary for the performance of the NSF grants.

Finding No. 4 – Compliance with Travel Regulations

The travel was not to Seoul as mentioned in the report, but to Hanoi – Vietnam. There is no US carrier serving Hanoi. [REDACTED] [REDACTED] [REDACTED] [REDACTED] Hanoi and was chosen under the assumption that it had a code sharing partnership with [REDACTED]. The flight from Seattle to Seoul connected with the flight to Hanoi. Finally, the cost of \$3,883 was for the total distance to Hanoi and not for the leg Seattle – Seoul. The Fly America Act form could have been filled out at the time. Therefore DOSECC does not concur with the disallowance of \$3,883 based on it being "unsupported".

This issue of identifying correctly code-share has been corrected since the OIG audit and personnel has been trained accordingly.

Sincerely yours,



Appendix B – Objectives, Scope and Methodology

The firm of McBride, Lock & Associates was engaged by the NSF's Office of Inspector General (OIG) to conduct an audit to determine the allowability of costs claimed by DOSECC under NSF awards EAR-0309707 and EAR-0829286. Limited procedures were also requested and performed with respect to award EAR-1060083¹. The audit period was from inception of award EAR-0309707, September 1, 2003, through September 30, 2011. The specific objective of the audit of NSF funds at DOSECC was to identify costs claimed on the NSF awards that are not allocable, allowable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal grant requirements for the period of expenses (September 1, 2003 – September 30, 2011) that were recorded by DOSECC on its general ledger and claimed in its September 30, 2011 FFR submitted to NSF.

We conducted our audit in accordance with the standards applicable to performance audits contained in the *Government Auditing Standards* (2011 revision) issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions relating to the audit objectives.

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

DOSECC, as a Federal awardee, is required to follow the cost principles specified in 2 CFR 230 (formerly Office of Management and Budget (OMB) Circular A-122), *Cost Principles for Non-Profit Organizations*, and the Federal administrative requirements contained in 2 CFR 215 (formerly OMB Circular A-110) *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*.

Available award accounting and administration policies and procedures and relevant documented management initiatives were reviewed, as were previously issued external audit and management reports. Schedules and reconciliations prepared by DOSECC were analyzed and agreed to

¹Subsequent to the Exit Conference held with DOSECC on July 17, 2012, it came to the auditors' attention that Award 1060083 was terminated by NSF on July 19, 2012.

the accounting records. Documents and accounting records underlying award-funded transactions were provided by DOSECC prior to fieldwork for purposes of review and analysis. Data contained in the DOSECC general ledger and supporting detailed ledgers were analyzed in order to identify anomalies, outliers, and aberrant transactions which were then subjected to further investigation during audit fieldwork.

Samples of transactions were tested from the population of charges to the NSF awards. The samples were judgmentally selected based on criteria including, but not limited to, transactions of large dollar amounts, possible duplications, indications of unusual trends in spending, inconsistency with other transactions, even dollar amounts, descriptions indicating potentially unallowable costs, and frequency. Four samples were selected; one representing wage and salary charges (30 transactions for \$105,202), one representing travel charges (23 transactions for \$25,139), one representing direct costs other than payroll and travel (34 transactions for \$337,541) and one representing journal entries (22 transactions for \$515,963). The sample sizes were expanded and additional transactions were tested based on identified exceptions or other indicators of risk. Because the samples were not randomly generated, the results are not subject to extrapolation to the population of charges.

Fieldwork was conducted at the DOSECC office in Salt Lake City, Utah, during April and May, 2012, and involved interviews with professional staff, inspection of source documents supporting selected financial transactions, observation of inventories of capital assets, parts and supplies, and a tour of DOSECC's offices. Workpapers from the September 30, 2011 audit performed in accordance with Office of Management and Budget (OMB) Circular A-133 were also reviewed and discussions were held with representatives from DOSECC's independent auditing firm. Previous audit reports and correspondence from NSF's program and cost accounting personnel were read and considered for purposes of understanding issues identified and addressed over the course of the nine-year audit period. Additionally, discussions were held with NSF management and NSF-OIG officials regarding matters relevant to the NSF awards. NSF is the federal cognizant agency for DOSECC.

We held an exit conference with DOSECC officials on July 17, 2012.

HOW TO CONTACT
THE OFFICE OF INSPECTOR GENERAL

Internet

www.oig.nsf.gov

Email Hotline

oig@nsf.gov

Telephone

703-292-7100

Toll-Free Anonymous Hotline

1-800-428-2189

Fax

703-292-9158

Mail

Office of Inspector General
National Science Foundation
4201 Wilson Blvd., Suite 1135
Arlington, VA 22230