



National Science Foundation

4201 Wilson Boulevard
Arlington, Virginia 22230

Office of Inspector General

MEMORANDUM

DATE: September 30, 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-11-1-021, Evaluation of National Ecological Observatory Network's (NEON) Construction Proposal

Background

We contracted with the Defense Contract Audit Agency (DCAA) to perform an audit of National Ecological Observatory Network's (NEON) \$433.7 million Construction Proposal. The construction is anticipated to be performed over a five-year period from FY 2011 through FY 2016.¹ The first objective of this engagement was to assess the adequacy of NEON's construction proposal to determine if the proposal is acceptable for audit. If found to be adequate for audit, then the second objective was to determine whether the proposal was prepared in accordance with applicable federal requirements and is considered acceptable as a basis for funding a fair and reasonable price. DCAA conducted several walkthroughs of the proposal with NEON and held several meetings between NEON, NSF management, and OIG between July and September, 2011.

NSF funded \$12.5 million of the \$433.7 million NEON construction budget with Major Research Equipment and Facilities Construction (MREFC) funds under Cooperative Support Agreement Award No. EF-1029808 dated August 1, 2011.

Evaluation Results

DCAA determined that the NEON proposal is inadequate for audit; therefore, DCAA did not complete its audit of the proposal. DCAA's letter of inadequacy, dated September 16, 2011, and NEON's response, dated September 28, 2011, is attached. NEON's proposal is inadequate for audit because none of its proposed cost elements for labor, overhead, equipment, etc., reconcile to its supporting data. The proposed total amount of \$433,789,932 is \$1,840,159 less than the

¹ The purpose of the NEON project is to enable understanding and forecasting of the impacts of climate change, land use change and invasive species on continental-scale ecology by providing infrastructure and consistent methodologies to support research and education in these areas.

total cost detail provided. DCAA also found four additional inadequacies in NEON's proposal concerning the lack of 1) a time phasing of costs for the proposed period of performance; 2) a consolidated bill of materials and equipment; 3) a consolidated listing of labor costs by job categories; and 4) an explanation of how indirect costs were computed.

Further, the NEON proposal includes \$74,174,000 of contingency costs, which are unallowable under federal regulations and \$1,606,354 of honoraria costs, which are also a type of unallowable contingency cost. In summary, DCAA cited total unallowable contingency costs of \$75,780,354 (\$74,174,000+\$1,606,354).

While contingencies may be included in Government developed budgets, awardees are not allowed to include contingency costs in the proposal they submit to the Government. At minimum, only estimates that are supported by adequate verifiable cost data should be included in proposals that are funded by the Government. DCAA recommended that NSF obtain an adequate proposal from NEON.

NEON disagreed that they were not able to support the \$433.7 million in the NEON proposal, but agreed that they lacked a consolidated listing of labor costs by job categories. NEON expressed that they lacked an understanding of some of DCAA's other findings, however, NEON indicated that they looked forward to working with DCAA to achieve an auditable proposal. NEON's response is attached.

Path Forward

In a recent meeting between OIG, Clifton Gunderson², DCAA and NSF officials, on September 21, 2011, DCAA agreed to meet with NEON and NSF management to walk through NEON's proposal, supporting documentation, and contingency estimates to ensure all parties have a clear understanding of federal requirements for adequate proposals and verifiable supporting documentation.³

Recommendations

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

1. Request NEON to revise and resubmit an adequate construction proposal correcting all of DCAA's cited deficiencies.
2. Require NEON to identify and remove unverifiable contingency provisions from its proposed budgets.

² Clifton Gunderson is NSF's financial statement auditor.

³ DCAA's agreement to meet also extends to two other major NSF construction awardees that proposed contingency costs: Consortium of Ocean Leadership (for OOI), and Association of Universities for Research in Astronomy (for ATST). In the case of OOI, the proposal was found to be auditable; but in the case of ATST, the proposal was deemed inadequate for audit.

3. Participate in DCAA's walk-through of NEON's proposal, supporting documentation, and contingency estimates to ensure that the awardee and NSF management fully understand federal requirements for an auditable proposal and verifiable supporting documentation.
4. Once the proposal is deemed adequate for audit, obtain a completed DCAA proposal audit report, and based on the results of audit, negotiate a revised award price with NEON.

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 this memorandum to the NEON 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 the report's 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 adequacy assessment at key points;
- Coordinated periodic meetings with DCAA and NSF officials as necessary to discuss progress, findings and recommendations;
- Reviewed the inadequacy letter prepared by DCAA to ensure compliance with Office of Management and Budget Circulars; and
- Coordinated issuance of the inadequacy letter.

DCAA is responsible for the attached inadequacy letter and the conclusions expressed therein. The NSF OIG does not express any opinion on NEON's construction proposal or the conclusions presented in DCAA's inadequacy letter.

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

Attachments:

DCAA Letter No. 3121-2011J21000001, *Cancellation of the NSFAudit of the National Ecological Observatory Network, Inc. (NEON) Construction Proposal for the Proposed Amount of \$433 Million Due to the Inadequacy of the Proposal*, dated September 16, 2011

NEON Response to DCAA Inadequacy Letter, dated September 28, 2011

cc: Martha Rubenstein, CFO and Director BFA
Mary Santonastasso, Division Director, DIAS
Elizabeth Blood, NEON Program Director, Division of BIO
Mark Coles, Director Large Facilities Projects, BFA/OAD
Clifford Gabriel, Senior Advisor, OD

SUBJECT: Cancellation of the National Science Foundation Audit of the National Ecological Observatory Network, Inc. (NEON) Construction Proposal for the Proposed Amount of \$433 Million Due to the Inadequacy of the Proposal

As shown in the table above, the bottom line proposal did not change from February 2010 to the July 2011 proposal; however, the individual cost elements changed. Further, the proposed amount of \$433,789,932 is \$1,840,159 less than the cost and pricing data detail provided by NEON in total and each cost element has variances. In our meetings with NEON, they acknowledged variances existed between its proposal and supporting data but stated the data provided was out of its COBRA system and could not reconcile the differences.

We discussed proposal inadequacies with NEON during our initial meetings and proposal walk-through held on August 10, 2011. We also notified NEON in our letter dated August 16, 2011, of the following inadequacies:

1. The proposal did not include a time phasing of costs for the proposed contract period of performance.
2. The proposal did not include a consolidated bill of materials and equipment for the proposed direct material and direct equipment costs under the anticipated contract.
3. The proposed direct labor did not include a consolidated listing of labor costs by job categories for the contract base period which includes total direct labor costs.
4. The proposal does not show how the proposed indirect costs were computed. OMB 2 CFR Part 230.50(C) requires the breakout of indirect cost components into two broad categories, *Facilities and Administration*.

Further, as discussed in our August 24, 2011 memorandum, NEON proposed \$74,174,000 (approximately 17 percent) of total proposed costs as “contingencies,” which are unallowable per 2 CFR Part 230, Appendix B, Paragraph No. 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 an assurance of their happening, are unallowable.” In addition, NEON’s proposal included \$1,606,354 of honorarium costs to universities. Honoraria are defined as one time services for which custom forbids a price to be set or where no expectation exists for payment for services. OMB Circular A-122, Appendix B to Part 230, Number 33, Participant support costs, states participant support costs are only allowable with the prior approval of the awarding agency. Therefore, it is likely we will also question these costs as contingency costs because NEON will not be able to provide cost or pricing data to support the proposed costs.

While contingencies may be included in Government developed budgets, contractors are not allowed to include contingency costs in the proposal they submit to the Government per OMB Circular A-122, Appendix B, and the NSF’s Proposal and Award Policies and Procedures Guide. There is a difference between Government estimates for budgeting purposes (wherein contingency costs are used to provide more realistic costs) and proposed costs (wherein OMB



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Circular A-122, Appendix B provides that contingency costs are unallowable).

NEON, who is the awardee/proposer, is a non-profit organization. The National Science Foundation (NSF) Proposal and Award Policies and Procedures Guide (NSF PAPPG), Part I, Chapter II, Section g, page II-11, provides that a proposal may request funds so long as the item and amount are considered “necessary, reasonable, allocable, and allowable under the applicable cost principles.” The NSF PAPPG (page II-17) also provides that “proposers should be familiar with the complete list of unallowable costs that is contained in the applicable costs principles.”

We determined that OMB Circular A-122 applies to non-profit organizations. Based on the application of 2 CFR Part 230, Appendix B, Paragraph No. 9 we consider NEON’s proposed contingency costs in the amount of \$74 million as unallowable costs.

When a government agency issues a solicitation for a grant, cooperative agreement, or contract (award), the responsible party (awardee) will prepare a budget or proposal depending on the type of award. The technical portion is prepared based on the direction of the buying/funding office’s requirements to achieve the end product while the financial portion is based on the applicable regulatory cost principles. The applicable regulatory requirements are determined based on the awardee’s type of entity.

- Educational institutions will use the cost principles in OMB Circular A-21
- State, local and Indian tribal governments will use OMB Circular A-87
- Non-profit organizations will use OMB Circular A-122, and
- Commercial organizations will use FAR Part 31.

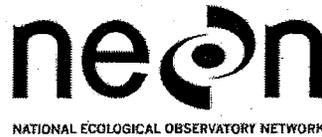
NEON is a non-profit organization and therefore its costs for pricing, administration, or settlement of awards must be in compliance with OMB Circular A-122 cost principles for non-profit organizations. No exceptions are available to awardees for determining applicable cost principles.

Because of the inadequate submission, we have discontinued our audit. Until NEON submits an adequate submission supported by cost and pricing data, we cannot proceed with an audit. We recommend NSF obtain an adequate proposal from NEON.

Any questions on this matter should be directed to Ms. Vicki DeLeon, Branch Manager, at (303) 969-5000. Our e-mail address is dcaa-fao3121@dcaa.mil.

/SIGNED/





September 28, 2011

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Branch Manager
Denver Branch Office, Central Region
Defense Contract Audit Agency
Department Of Defense
10375 Park Meadows Drive, Suite 560
Littleton, CO 80124-6791.

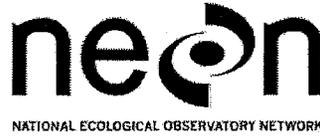
Dear Vicki,

Please find attached a copy of your original letter; I have identified six particular points where we have a specific response to your letter:

[NEON-1]: We do not agree with the assessment that “NEON.. are not able to support the \$433,789,932 proposed amount with supporting cost and pricing data”. The NEON project estimate has been reviewed three times by NSF-led committees (June 2009 Preliminary Design Review, November 2009 Final Design Review, April 2011 Preconstruction Review – hereafter “the NSF-led reviews”) at the line-item level in the budget, under the guidelines established by the NSF Large Facilities MREFC Manual. During meetings with DCAA at our Headquarters in Boulder, it was clear that the significant formatting and categorization differences between a NSF project estimate and a typical DCAA review item (e.g. contract proposal) made comparison difficult. An additional complicating factor is the steady evolution of the project estimate based on changes in external factors (e.g. inflation rates, vendor quotes) and updates associated with new project understanding gained as part of NSF-funded design and development activities (e.g. minor scope and implementation changes).

The numbers tabled in your letter combine several complex factors in categories that integrate across several distinct project activities. We are confident that with careful collaborative analysis, the current ██████████ can be understood within both frameworks. One source of significant confusion was a “versions issue” – the project office is continuously updating the project estimate (within a change-control management environment), based on design & development activities, while DCAA was assessing the estimate relative to the “NSB” version of the proposal (submitted February 2010). The path between these estimates is fully documented, but involves significant understanding and analysis at all levels.

[NEON-2]: We do not understand the comment “The proposal did not include a time phasing of costs for the proposed contract period of performance”. The file “PRECON NEON Budget & Schedule March2011.pdf” delivered in the zip file transferred via the NEON DCAA website on July 17th 2011 includes an annual spending profile in section 1.2. Our project estimate is fully time-phased – this information was examined during our NSF-led reviews. Quarterly or monthly profiles can also be generated by our Primavera or COBRA software. It is possible that DCAA is seeking information about time-phasing of costs in a format that we are unaware of.



- [NEON-3]: The comment "The proposal did not include a consolidated bill of materials and equipment for the proposed direct material and direct equipment costs under the anticipated contract" indicates that the extensive work undertaken by the NEON Project Office to reclassify all project budget line-items into the categories identified by the DCAA was insufficient to enable straightforward analysis by DCAA. Ten days earlier (August 5th) we sent DCAA an Excel spreadsheet containing a draft Bill of Materials which compared the COBRA project estimate to an estimate presented in the requested DCAA format. During this analysis we investigated all changes made to the estimate over the past year based on design & development activities. The [REDACTED] indicated in the DCAA letter was identified in our Bill of Materials as comprised of: (a) [REDACTED] accepted changes, and (b) [REDACTED] of project-office controlled changes still under investigation (dominated by a single [REDACTED] contract item). We believe that further collaborative work between NEON and DCAA will enable clear understanding of the project estimate in both frameworks, assuming that the "versions issue" is resolved.
- [NEON-4]: The comment "The proposed direct labor did not include a consolidated listing of labor costs by job categories for the contract base period which includes total direct labor costs" is correct. Development of the NEON project estimate has involved detailed position-by-position across all product teams, and we have sought to identify all unique requirements associated with each position. Additional work by the NEON Project Office in future can enable the broader groupings DCAA are seeking.
- [NEON-5]: The comment "The proposal does not show how the proposed indirect costs were computed. OMB 2 CFR Part 230.50(C) requires the breakout of indirect cost components into two broad categories, Facilities and Administration" involves a reporting requirement which is unfamiliar to the NEON Project Office. Indirect costs were reviewed in the NSF-led reviews according to MREFC standard practices; negotiation and implementation of the NEON, Inc. Indirect rate is a corporate business process. The total indirect cost indicated in the project estimate is derived from an analysis of the project requirements, and characterized using formats and categories familiar to the NSF. Further collaborative work between NEON and DCAA is required to understand the applicability of, and requirements associated with, this OMB directive.
- [NEON-6]: The extensive comments in your letter concerning the allowability of contingency in project estimates address issues that are beyond the domain of the NEON Project. As we have made clear from the beginning of our discussions: the algorithmically-based approach we have used to estimate our contingency is standard within the MREFC community, and was extensively reviewed during the NSF-led reviews. The contingency level included in the project estimate is not specified beforehand by NSF; it is the summation of risk estimates made at the line-item level throughout the estimate. The mechanics of contingency estimation are well-established; we urge NSF and DCAA to resolve the allowability issue at their convenience.

Vicki, thank you for the opportunity to respond to DCAA's letter. We look forward to further clarifying this situation in future.



Regards,



Cc: L. Blood (NSF)