



National Science Foundation

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Office of Inspector General

MEMORANDUM

DATE: September 28, 2012

TO: Jeff Lupis, Director
Division of Acquisition and Cooperative Support (DACS)

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

SUBJECT: NSF OIG Audit Report No. OIG-12-1-008, Audit of National Ecological Observatory Network, Inc's Proposed NEON Construction Budget

We contracted with the Defense Contract Audit Agency (DCAA), Denver Branch Office, to perform an audit of National Ecological Observatories Network's (NEON) \$433.7 million proposed budget for the construction of the National Ecological Observatories Network, which will be performed over a five-year period from August 1, 2011 through July 30, 2016. The objective of this audit was to examine the NEON construction proposal to determine if NEON's proposed budget was prepared in accordance with applicable federal requirements, and is acceptable as a basis for negotiation of a fair and reasonable price.

DCAA performed its audit of NEON in accordance with generally accepted government auditing standards using OMB regulations as criteria. However, the auditors reported significant scope limitations because neither NSF nor NEON provided adequate supporting documentation for significant proposed quantities or costs. DCAA's final audit report is attached to this memo.

Background

The NEON proposal audit started in June 2011 and on July 25, 2011, DCAA issued its first of three inadequacy memos stating that the NEON proposal was unauditible. On July 27, 2011, NSF entered into Cooperative Agreement EF-1029808 and a Cooperative Support Agreement (CSA) EF-1029808 with NEON both effective August 1, 2011. The CSA initially funded the NEON project with \$12.5 million of Major Research Equipment and Facilities Construction (MREFC) funds out of the projected total award funding of almost \$434 million subject to availability of funds. At present, through the latest award modification (Amendment 014, dated September 17, 2012), the cumulative CSA funding is approximately \$72.8 million.

On September 16, 2011, DCAA issued its final inadequacy memo, which we formally issued to NSF on September 30, 2011.¹ On February 17, 2012, NEON submitted a revised proposal, and on March 1, 2012, DCAA acknowledged that it would audit this proposal. The attached DCAA audit report is the result.

Significant issues and limitations discussed in DCAA's audit report are explained below.

Conclusion

Despite working with NEON between January through September 2012 to proceed with the audit and clear some major inadequacies in the proposal, the auditors issued an adverse opinion on the proposal stating that the proposal did not form an acceptable basis for negotiation of a fair and reasonable price. DCAA's audit of the NEON construction proposal disclosed significant questioned and unsupported costs of \$154.4 million (nearly 36% of the proposed \$433.7 million budget). Costs questioned were \$102.1 million and costs unsupported were \$52.3 million. These exceptions occurred because the proposed budget was not prepared in accordance with appropriate provisions of OMB Circular A-122 (2 CFR Part 230), Cost Principles for Non-Profit Organizations. Because the noncompliances with these cost principles have a significant impact on the proposal taken as a whole, DCAA rendered an adverse opinion on the proposed budget.

NEON's proposed budget and DCAA's questioned and unsupported costs, as summarized in the Exhibit (page 5 of DCAA's audit report), are as follows:

Cost Element	Proposed	Results of Audit		Difference
		Questioned	Unsupported	
Direct Labor	\$ 87,755,598	\$ 9,102,121	\$ 5,053,736	\$ 73,599,741
Materials	14,635,610		13,246,257	1,389,353
Equipment	107,457,147	3,222,854	16,599,842	87,634,451
Travel	9,471,314	1,735,279		7,736,035
Other Direct Costs	73,604,605	13,438	7,485,228	66,105,939
Consultants	32,307,025	2,005,697	9,913,285	20,388,043
Escalation-Other	24,025,612	12,645,354		11,380,258
Overhead	11,858,840	731,640		11,127,200
Contingency	72,683,017	72,683,017		
	<u>\$433,798,768</u>	<u>\$102,139,400</u>	<u>\$52,298,348</u>	<u>\$279,361,020</u>

¹ NSF OIG Audit Report No. OIG-11-1-021, *Evaluation of National Ecological Observatory Network's (NEON) Construction Proposal*, dated September 30, 2011

Significant issues supporting DCAA's adverse opinion include the following:

- The audit questioned the entire \$72.6 million of proposed contingency costs as unallowable based on 2 CFR Part 230, Appendix B, Paragraph 9, *Contingency Provisions*, which states, "Contributions to a contingency reserve or any similar provision made for events the occurrence of which cannot be foretold with certainty as to time, intensity, or with an assurance of their happening are unallowable." DCAA noted that there is uncertainty that the costs will be incurred. NEON calculated \$57.2 million of contingencies for line items using values and factors from tables, and estimated an additional \$15.4 million for changes in overall project estimate and increases in project contingency from 16 to 20 percent as recommended in NSF's Final Design Review. Although NEON asserted its proposed contingency estimating calculations were used in a wide variety of scientific and commercial projects, DCAA stated that, "NEON could not support the proposal's contingency values and factors for subject project using its own historical data. Nor was other data available to support the proposed values and factors." The cited OMB cost principle notwithstanding, the awardee is still required to provide adequate supporting documentation for all its proposed costs, in accordance with 2 CFR 230 Appendix A, General Principles, A(2)(g), which requires costs be adequately documented.
- The audit questioned proposed escalation costs because auditors found the escalation factors to be unreasonable, inappropriate, or duplicate escalation costs; NEON did not appropriately apply the NSF-provided OMB escalation factors; or Global Insight's producer price index showed deflation over the period of performance rather than inflation.
- NEON did not provide adequate documentation to demonstrate the allowability, allocability, or reasonableness for significant amounts of the proposed direct labor, direct material/equipment, consultants, and other direct costs (ODCs).
- NEON did not always provide adequate documentation to demonstrate price reasonableness of the proposed unit price for several material items.
- NEON's price and/or cost analyses were insufficient due to (i) reliance of historical data that was not current; (ii) lack of adequate documentation of the analyses; and (iii) less than sufficient competition by offerors.
- Questioned and unsupported direct equipment and material costs are based on inadequate supporting documentation, unsupported engineering estimates, unsupported estimated shipping costs, quantity discounts not taken, and other exceptions.
- NEON proposed a management fee as a line item of consultants cost to cover expressly unallowable costs in noncompliance with OMB cost principles.
- Questioned travel costs included inappropriate refund application and unallowable food and alcohol costs.
- Questioned unit costs for ODCs (other direct costs) and consultant costs included items that did not reconcile to support, such as vendor quotes.
- NEON's accounting practice is noncompliant because it incurred but did not remove unallowable indirect costs from the overhead pool and is not accounting for capital expenditures in accordance with OMB cost principles which state, "Equipment and other capital expenditures are unallowable as indirect costs."
- NEON's MTDC (modified total direct costs) allocation base was determined to be noncompliant with OMB cost principles because NEON removed unallowable costs from the

allocation base, which has the effect of lowering the base and increasing the rate for the remaining costs left in the base. Unallowable costs should also receive an appropriate share of indirect costs.

- NEON did not include the proposed contingency costs in its allocation base in proposing its 22 percent overhead rate or apply its overhead rate to the proposed contingency costs. Therefore, it appears NEON has not considered the potential accounting issues that could arise from these costs.
- The fringe allocation base selected by NEON was determined to be noncompliant with OMB cost principles. NEON included the following two accounts in the base: Account 40101, *Part Time and Temporary Salaries*, which contained costs of visiting scientists and seasonal workers, and Account 40105*, *Other Compensation*, which contains cost for signing bonuses, severance costs, and other items of this nature. NEON confirmed visiting scientists and seasonal workers do not receive benefits.

NEON, in its response dated September 7, 2012, disagreed with DCAA's findings, stating that "costs were estimated and thoroughly reviewed (by NSF panels) consistent with NSF's MREFC procedures defined in the NSF Large Facilities Manual." We take no exception to the factual accuracy of NEON's assertion. However, the significant marked contrast in results between NSF panel reviews which took no exception to NEON's proposed costs and the subject DCAA audit raises serious concerns about the NSF review processes. Similar differences and awardee assertions arose over two other NSF construction projects during the last two years. DCAA audits, which use OMB cost principles as criteria, have repeatedly found awardees' proposed budgets (that were approved by NSF) lacked adequate supporting documentation. Please see our recent alert memo to NSF for further details.² Our overarching goal is stewardship and accountability of government funds.

Scope Limitations

DCAA noted significant scope limitations which prevented a complete audit of the proposal, and, without which, additional costs might have been questioned. First, DCAA was unable to determine the reasonableness of proposed direct labor hours or material and equipment quantities. While NSF OIG provided DCAA with NSF's panel reviews (Final Design Review and Construction Readiness Review), DCAA could not rely on those reviews as technical evaluations. DCAA stated that those reviews did not provide the detail, nor satisfy the requirements of a technical evaluation. We asked NSF to provide a program review of NEON's proposed labor hours and documentation quantifying and justifying the amount of NEON's proposed labor hours (by category) and skill levels. NSF responded that its Design review evaluates staff and skill levels using the NSF Large Facility Manual criteria, and that the Grants Officer "performs a cursory check of the labor hours as it appears in the NSF budget form." We forwarded NSF's responses to DCAA, but DCAA still could not rely on NSF's processes as a legitimate technical evaluation.

² NSF OIG Alert Memo, Report No. 12-6-001, *NSF's Management of Cooperative Agreements*, dated September 2012

Second, DCAA stated that NEON did not provide adequate support for a significant portion of its proposed direct labor, materials, equipment, ODC (other direct costs) and consultant costs. As stated above, this resulted in DCAA's classifying approximately \$52.3 million of proposed direct costs as unsupported. This amount does not include the application of NEON's proposed 22% indirect cost rate, which, if applied, would have the effect of increasing the \$52 million by as much as \$11.5 million (\$52.3 million x .22). However, DCAA stated that the contracting officer should apply this rate to any unsupported base costs that are not accepted to calculate corresponding additional questioned indirect costs.

Recommendations

In view of the adverse opinion rendered by the auditors on NEON's construction proposal and the almost \$434 million of taxpayer dollars at risk, we recommend that the NSF Director of the Division of Acquisition and Cooperative Support take the following actions before funding any additional amounts for the NEON project:

1. Require NEON to submit a revised proposed budget with adequate supporting documentation for all proposed costs.
2. Obtain a DCAA audit of the awardee's revised proposed budget and supporting documentation prior to funding and base NEON funding on the results of audit.³
3. Require NEON to remove unallowable contingency provisions from its proposed budgets for NEON and discontinue NSF's practice of funding contingencies until the awardee is able to demonstrate a bona fide need for the funds supported by adequate supporting documentation.

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 recommendation has 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 generally accepted government auditing standards, the Office of Inspector General:

- Reviewed DCAA's approach and planning of the audit;

³ DCAA stated in its report, "If NEON provides the remainder of the supporting documentation prior to re-negotiations under the adjustment clause, we will provide a supplemental report, if such a report will serve a useful purpose."

- Evaluated the qualifications and independence of the auditors;
- Monitored the progress of the audit at key points;
- Coordinated periodic meetings with DCAA and NSF officials as necessary to discuss audit progress, findings and recommendations;
- Reviewed the audit report prepared by DCAA to ensure compliance with Government Auditing Standards and Office of Management and Budget Circulars; and
- Coordinated issuance of the audit report.

DCAA is responsible for the attached audit report on NEON and the conclusions expressed in that report.

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 Jannifer Jenkins at (703) 292-4996 or David Willems at (703) 292-4979.

Attachments:

DCAA Audit Report No. 3121-2012J21000001-S1, *Independent Audit of National Ecological Observatory Network, Inc.'s Proposal for Major Research Equipment and Facilities Construction of the National Ecological Observatory Network*,, dated September 30, 2012

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
Clifford Gabriel, Senior Advisor