U.S. Department of Energy
Office of Inspector General
Office of Audits and Inspections

AUDIT REPORT

Management of Selected Advanced Research Projects Agency-Energy Projects

OAS-M-14-08

August 2014

Department of Energy
Washington, DC 20585

August 6, 2014

MEMORANDUM FOR THE ACTING DIRECTOR FOR ADVANCED RESEARCH PROJECTS AGENCY-ENERGY

George W. Collard

FROM: George W. Collard
Assistant Inspector General
for Audits
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Management of Selected Advanced Research Projects Agency-Energy Projects"

BACKGROUND

The Department of Energy's (Department) Advanced Research Projects Agency-Energy (ARPA-E) was created in 2007, as part of the *America COMPETES Act*. ARPA-E focuses exclusively on high-impact innovations designed to translate science into breakthrough technologies that allow for genuine transformation in the way we generate, store and utilize energy. Funding is awarded through cooperative agreements to recipients ranging from start-up companies to established corporations, and to institutions of higher education. Every recipient is statutorily required to share in the overall costs of their project by contributing a percentage of the total project costs. Cost-share can be in the form of cash or in-kind contributions. In 2009, the *American Recovery and Reinvestment Act of 2009* provided $400 million to ARPA-E to launch its first projects. To date, ARPA-E has funded over 362 potentially transformational energy technology projects.

Given the importance of ARPA-E's mission and its short history, we initiated this audit to determine whether selected ARPA-E projects were being effectively and efficiently managed.

RESULTS OF AUDIT

We found that ARPA-E had generally established and implemented project management controls. Through significant involvement with project recipients, ARPA-E established project milestones, monitored progress, and reviewed progress reports and requests for project expense reimbursements. While such controls appeared to be generally effective, our testing revealed that two recipients had failed to obtain required audits and one of them had incurred questionable project costs.

Questionable Labor and Indirect Expenses

We identified approximately $547,000 in questionable labor and indirect expenses claimed by one of the eight recipients we evaluated. The recipient was awarded about $6.6 million for a

3-year project that ended in November 2013 and was required to provide 20 percent in cost-share, bringing the total project cost to approximately $8.3 million. In total, we questioned about $547,000 in project costs claimed by this recipient, who was reimbursed about $437,600 (80 percent). We found that the recipient:

- Claimed about $424,000 in questionable project costs consisting of in-kind cost-share in the form of labor, fringe and indirect expenses. The recipient claimed about $171,000 as in-kind labor based on the difference between below-market rates paid to five senior team members working on the project and market rates paid to other internal personnel with comparable positions. Specifically, in December 2011, the recipient began claiming in-kind labor for certain project personnel as cost-share back to the beginning of the award period despite the fact that the recipient's original agreement with ARPA-E called for cash as its contribution. The recipient asserted that the five employees elected to receive a lower salary level to ease the cash strain on the business. During the period when the recipient was claiming the salary difference as in-kind cost-share, it had paid the selected project personnel about $213,000 and claimed an additional, unpaid difference of about $171,000 as in-kind cost-share. The recipient also claimed fringe and indirect expenses specific to these in-kind wages in the amounts of about $39,000 and $214,000, respectively, as cost-share contributions.

  According to ARPA-E, although the recipient's Certified Public Accountant (CPA) had discussed this proposed cost-share arrangement with an ARPA-E Support Contractor, the ARPA-E Contracting Officer was not made aware of these discussions by its Support Contractor, and subsequently this practice was not reviewed or approved by ARPA-E. Further, the recipient failed to specifically inform ARPA-E that it intended to modify its cost-share charges on subsequent invoices. After we informed ARPA-E officials that the recipient was using in-kind labor and related indirect and fringe expenses as part of its cost-share contribution, ARPA-E determined these amounts to be potentially unallowable and is working with the recipient to recover the Federal share of these costs.

- Claimed about $49,000 in other questionable indirect expenses. Specifically, the recipient's indirect cost pool included depreciation expenses from assets purchased with ARPA-E and other Government agency funding. These assets had been paid for with Federal dollars, and as such, inclusion in the cost pool and allocation to the ARPA-E project of depreciation expenses by means of the indirect rate amounted to double reimbursement. Federal regulations state that no final cost object shall have allocated to it as an indirect cost, any cost that has been included as a direct cost of that or any other final cost object. The overall effect of the inclusion of unallowable depreciation expense in the cost pool inflated the indirect costs by about $49,000.

In addition, we could not reconcile the recipient's actual indirect expenses to those claimed to the award. The recipient's provisional indirect rate used to allocate the indirect cost pool among several projects exceeded the rate at which indirect expenses were actually incurred by the company over the course of the project. While the use of a provisional indirect rate is a standard business practice in Government awards, this resulted in the recipient being reimbursed about $74,000 more than actual incurred indirect expenses. Although the project was terminated by mutual agreement in November 2013, ARPA-E stated that the award will remain open until

ARPA-E has been fully reimbursed for the Federal share of all questioned costs identified in this report. Instead of waiting for the award close-out process, when recipients' provisional indirect rates are normally reconciled to their actual indirect costs, ARPA-E has insisted that the recipient reconcile the difference between the rates before the close-out process is initiated. Overall, this is a standard ARPA-E/Department practice and is designed to help ensure that the Government is reimbursed when funds are owed by a recipient.

Audit Requirements

ARPA-E had not always ensured that recipients obtained required audits. Federal regulations require that any recipient that expends $500,000 or more in a given year under Federal awards must have an audit conducted by an independent auditor. The audits are intended to determine whether the recipient has an internal control structure that provides reasonable assurance that it is managing awards in compliance with Federal laws and regulations and the terms and conditions of the awards. However, we found that two of the eight recipients, including the previously discussed recipient that had claimed the $547,000 in questionable expenses, had not obtained the required audits.

Contributing Factors

We found that the issues we observed occurred for a variety of reasons. With respect to the questionable in-kind cost-share contributions, it appears that there had been a misunderstanding and a lack of communication between ARPA-E and the recipient as to the final position or determination regarding allowability of such cost-share methods. Prior to claiming in-kind labor as a component of its cost-share, the recipient's CPA had contacted an ARPA-E Support Contractor to determine whether the recipient's in-kind labor calculation method, the difference between below-market rates paid to project employees and rates paid to other comparable internal employees, would be allowable. The recipient's CPA and the ARPA-E Support Contractor exchanged several emails and had a telephone conversation regarding the recipient's proposed in-kind cost-share. In an email to the ARPA-E Support Contractor summarizing the CPA's understanding of the telephone conversation, the CPA expressed belief that such in-kind cost-share would be allowed by ARPA-E. After this email, however, there was no further communication from the recipient regarding the proposed in-kind cost-share, no communication between the ARPA-E Support Contractor and the Contracting Officer, or any written authorization from ARPA-E allowing the cost-share. In spite of this, the recipient began claiming the difference in market and below-market compensation as in-kind cost-share. Although the recipient's claims specifically identified cost share for in-kind labor, in-kind fringe benefits, and in-kind indirect costs, ARPA-E did not identify or disallow the inappropriate charges before settling the claims.

We also found that, while the recipient asserted that it had been unclear on how the depreciation expense should be allocated in its cost pool for assets purchased with Federal funds, the recipient had received previous grants from another Federal agency, an experience which, in our opinion should have alerted it that such charges were duplicative and thus prohibited. Also, ARPA-E provided online templates for calculating indirect rates, which were available at the time that this recipient had calculated their rates. While the indirect rates had been audited twice by an independent audit firm, the problems with the inclusion of the depreciation expenses had not been identified.

The accumulation of indirect costs in excess of actual incurred indirect costs occurred because the recipient's provisional indirect rate significantly varied with the rate that indirect costs were actually incurred for most of the award. While the terms and conditions of the award state that the Federal share of any costs reimbursed in excess of what was actually incurred must be paid back at the end of the project, the recipient had not done so by the time our report was published.

Finally, concerning the two recipients without the required annual audits, ARPA-E did not have a process in place to ensure required audits were requested, tracked and reviewed; nor had it verified that this stipulated condition of the award had been carried out by these recipients.

ARPA-E Management Practices

ARPA-E had established project management practices for the recipients we audited. According to ARPA-E policy, every Federal Program Director must conduct site visits with recipients every other quarter and hold web conferences in between site visits. We found that these reviews had been conducted and recipients noted how impressed they were with the technical knowledge and support of the Program Directors. ARPA-E had also established milestones for each recipient's project and failure to meet these milestones could lead to project termination, as demonstrated in one project we reviewed, which was subsequently terminated. ARPA-E had required recipients to provide numerous, detailed project reports and supporting documentation for direct project expenses. This represents an improvement from our previous audit, *The Advanced Research Projects Agency-Energy* (OAS-RA-11-11, August 2011), which found that recipients had not always been required to submit detailed documentation.

In addition, ARPA-E promptly took actions to address the issues found during our audit. Specifically, when we brought the questionable costs to the attention of ARPA-E officials, they determined that these amounts were potentially unallowable based on Federal cost principles, and are working to recover the Federal share of the identified questioned costs. ARPA-E officials also notified us that they are in the process of updating guidance to explicitly state that awardees may not include, as indirect costs, depreciation for equipment purchased with Federal funds.

Regarding the annual audit requirement, ARPA-E notified us that it was initiating a new process to ensure annually required audits are tracked and reviewed by completing a software update in its project management system. Officials stated that the new process will include notifications to recipients of their obligation to have an audit performed in years that their spending exceeds $500,000. The new audits section/module would also include documentation of management's review of audit report results. ARPA-E also issued a notice to the two recipients identified in our review without the annual audits to send completed audits to ARPA-E by April 30, 2014. To date one recipient has submitted all required audits and the second recipient is working to complete this action. Lastly, ARPA-E issued a courtesy email to all current ARPA-E for-profit awardees about the audit requirement.

Impact and Path Forward

The success of the technologies that ARPA-E funds directly supports the goal of the Department to transform our Nation's energy systems. Given the significance of this goal and the amount of funding awarded to support these technologies, it is imperative that taxpayer dollars are spent as efficiently and effectively as possible. Further, ARPA-E has a crucial role of managing these projects and protecting the Federal Government from fraud, waste, and abuse. While ARPA-E had taken several steps to address the issues, we found during our audit that additional improvements are needed.

RECOMMENDATIONS

Based on the importance of the Department's mission and ARPA-E's key role within the Department, we recommend that the Acting Director for ARPA-E direct Program officials to:

1. Ensure that recipients seeking new in-kind cost-share are reminded that a written request must be submitted to the contracting officer for approval;

2. Identify and distribute lessons learned relating to allowability of cost-share, depreciation expenses and indirect expenses;

3. Implement a process to ensure that required audits of recipients' Federal awards are requested, tracked, and reviewed; and

4. Obtain and review required audits for the two recipients mentioned in our report.

Additionally, we recommend that the contracting officer for the project:

5. Resolve the questioned costs discovered during our review.

MANAGEMENT REACTION

Management concurred with the report's recommendations. ARPA-E has taken actions to address Recommendations 1, 2 and 3 and is in the process of addressing Recommendations 4 and 5. To address Recommendation 1, ARPA-E has published cost-share related "Frequently Asked Questions" (FAQ) on its website and added a new clause to its financial assistance agreements to require that recipients obtain written authorization from the ARPA-E Contracting Officer before modifying cost-share contributions. To address Recommendation 2, ARPA-E has published informational FAQs on its website and incorporated this information into training materials designed for recipients. ARPA-E updated its program management system to address Recommendation 3. The update enables ARPA-E to track which for-profit recipients must submit required audits, and allows recipients to electronically submit copies of required audit reports. ARPA-E has partially addressed Recommendation 4 by obtaining required audit reports from one of the two recipients and is in the process of obtaining the required audit report from the other recipient. To address Recommendation 5, the ARPA-E Contracting Officer has notified the specific recipient and is seeking reimbursement of all questioned costs we identified.

AUDITOR COMMENTS

The Department's corrective actions, both planned and taken, are responsive to our recommendations.

Attachments

cc: Deputy Secretary
Chief of Staff

OBJECTIVE, SCOPE AND METHODOLOGY

OBJECTIVE

The objective of the audit was to determine whether selected Advanced Research Projects Agency-Energy (ARPA-E) projects were being effectively and efficiently managed.

SCOPE

This audit was performed between September 2013 and August 2014, at the Department of Energy's (Department) Headquarters in Washington, DC. In addition, we conducted reviews of eight projects both on-site and remotely in Massachusetts and California. The audit included a review of $21 million of the $26 million in costs incurred by the eight recipients through September 2013. The audit was conducted under Office of Inspector General Project Number A13HQ053.

METHODOLOGY

To accomplish the audit objective, we:

- Obtained and reviewed relevant laws and regulations related to the financial assistance awards administration.
- Conducted interviews and meetings with ARPA-E officials.
- Judgmentally selected eight ARPA-E funding recipients in Massachusetts and California. This selection was based on award amounts, ARPA-E programs, types of entities, and geographical location. Because we used a judgmental sample, the results cannot be projected over the entire population.
- Obtained access to the Department's Strategic Integrated Procurement Enterprise System (STRIPES) and ARPA-E's Energy Program Information Center (ePIC) system and reviewed individual award documentation for each project.
- Analyzed the implementation of financial assistance requirements as prescribed by the terms and conditions of the selected awards.
- Interviewed ARPA-E Program Directors that oversee the selected recipients reviewed.
- Reviewed invoices submitted for reimbursement and conducted testing of records for each selected recipient. We judgmentally sampled project expenses based on documentation that had been submitted to ARPA-E, the percentage of expenses in relation to overall costs, and cost categories. Because a judgmental sample was used, results cannot be projected over the entire population.
- Verified assets purchased for projects at the selected recipient locations.

- Interviewed project personnel for each of the eight awards.

We conducted this performance audit in accordance with generally accepted Government auditing standards. 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 based on our audit objective. Accordingly, we assessed significant internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. In particular, we assessed the Department's implementation of the *GPRA Modernization Act of 2010* and determined that it had established performance measures related to the Program. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. Finally, we conducted an assessment of computer-processed data relevant to our audit objective and determined the data to be sufficiently reliable to achieve our audit objective.

ARPA-E management officials waived an exit conference.

PRIOR REPORTS

Office of Inspector General

- Audit Report on *The Advanced Research Projects Agency-Energy* (OAS-RA-11-11, August 2011). The audit found that the Advanced Research Projects Agency-Energy (ARPA-E) had established criteria for awards selection that was consistent with mission objectives. The audit found, however, that ARPA-E had not established a systematic approach to ensure Technology Transfer & Outreach was meeting the requirements of the *America COMPETES Act*. In particular, ARPA-E had not required recipients to expend a percentage of their awards on Technology Transfer & Outreach. ARPA-E also had not drafted, and in some cases approved, policies in a number of areas including TT&O; monitoring and oversight of awardees; termination of nonperforming awards; and invoice review. The report also identified $280,387 in questionable costs at two of the three recipient sites visited. ARPA-E was unaware that recipients had incurred the types of costs that were questioned because they did not require submission of transaction details as part of their invoice review process.

Government Accountability Office

- Audit Report on *DEPARTMENT OF ENERGY Advanced Research Projects Agency-Energy Could Benefit from Information on Applicants' Prior Funding* (GAO-12-112, January 2012). The Government and Accountability Office (GAO) found that ARPA-E had taken steps to identify and understand how funding provided to its award winners from the private sector related to the projects proposed for ARPA-E funding. GAO's review suggested that most ARPA-E projects could not have been funded solely by private investors. Private venture capital firms told GAO that, among other considerations, they generally did not invest in projects that could not be commercialized in less than 3 years. Additionally, GAO found that few eligible applicants that were not selected for award by ARPA-E subsequently secured private funding. Finally, GAO found that ARPA-E officials had taken steps to coordinate with other Department of Energy offices to avoid duplication.

MANAGEMENT COMMENTS

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July 21, 2014

TO: RICKEY R. HASS
DEPUTY INSPECTOR GENERAL FOR AUDITS AND INSPECTIONS
OFFICE OF INSPECTOR GENERAL

FROM: CHERYL MARTIN Cheryl a martin
ACTING DIRECTOR
ADVANCED RESEARCH PROJECTS AGENCY – ENERGY (ARPA-E)

RE: ARPA-E's Response to OIG Draft Audit Report on "The Department of Energy's Management of Selected Projects by the Advanced Research Projects Agency – Energy"

On behalf of the Advanced Research Projects Agency – Energy (ARPA-E), I would like to thank the Office of the Inspector General (OIG) for the opportunity to review and respond to the subject draft report. ARPA-E appreciates the OIG's efforts in identifying opportunities for the agency to improve its management of financial assistance awards. ARPA-E is committed to continuously improving how it manages its project portfolio and implementing effective management practices. ARPA-E concurs with all five (5) recommendations made by the OIG. ARPA-E's responses to the OIG's specific recommendations and corrective action plans are provided below.

Recommendation 1: Ensure that recipients seeking new in-kind cost share are reminded that a written request must be submitted to the Contracting Officer for approval.

Management Response: Concur. ARPA-E implemented this recommendation by publishing a "Frequently Asked Question" (FAQ) on its website that addresses procedures for requesting changes to in-kind cost share, which includes a reminder that such requests must be submitted to the Contracting Officer for approval. When appropriate, recipients will be specifically referred to this FAQ by ARPA-E personnel and contractor-employees. In addition, ARPA-E has added a new clause to its financial assistance agreements to require specifically that ARPA-E recipients obtain written authorization from the ARPA-E Contracting Officer before modifying the amount, type, and source of cost share contributions.

Recommendation 2: Identify and distribute a lessons learned relating to allowability of cost-share, depreciation expenses, and indirect expenses.

Management Response: Concur. ARPA-E implemented this recommendation by publishing informational FAQs on the ARPA-E website. In addition, ARPA-E has incorporated this information into training materials designed for ARPA-E recipients, which will also be available on the ARPA-E website.

Recommendation 3: Implement a process to ensure that required audits of recipients' Federal awards are requested, tracked, and reviewed.

Management Response: Concur. ARPA-E implemented this recommendation through an update to its program management system. The update enables ARPA-E to track which for-profit recipients must submit required audits, monitor submission status, and allows recipients to electronically submit copies of required reports. In addition, ARPA-E will follow new guidance issued in June 2014 by the DoE Chief Financial Officer (CFO) on reviewing and processing required audits, entitled "Financial Assistance Audits Processes for Coordinators – Single Audits and For-Profit Audits." This new guidance clarifies the roles and responsibilities of program offices for requesting, tracking, and reviewing required recipient audits.

Recommendation 4: Obtain and review required audits for the two recipients mentioned in our [OIG] report.

Management Response: Concur. On March 11, 2014, the Contracting Officer requested that both recipients mentioned in the report submit all required audit reports. To date, one recipient has submitted all required reports and the second recipient has been granted an extension to complete this action. Failure to meet the new submission deadline will result in suspension of any further payment of the second recipient's invoices until all required reports are received. ARPA-E anticipates receiving required audits from the second recipient by September 5, 2014, and completing ARPA-E's review of both recipients' reports by October 1, 2014.

Recommendation 5: Resolve the questioned costs discovered during our review.

Management Response: Concur. ARPA-E is working diligently to recover unallowable costs identified by the OIG. (The indirect costs related to equipment depreciation and the recipient's incurred indirect rate, were unnoticed during a standard independent audit by a major accounting firm, conducted at the request of ARPA-E. Only the diligence of the OIG audit team led to discovery of these unallowable costs). The ARPA-E Contracting Officer has notified the specific recipient and is seeking reimbursement of all unallowable costs. When the Contracting Officer's review is complete, ARPA-E will seek the appropriate reimbursement and issue a final determination if necessary. Completion of the action is anticipated by September 2014. Failure to pay any outstanding amount will result in offset against the recipient's final invoice and referral to the Department of the Treasury, if necessary, for collection action.

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