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Office of Inspector General
Office of Audits and Inspections

AUDIT REPORT

Management of the Solar Energy Technologies
Office's Technology to Market Program

OAI-M-16-08

March 2016



Department of Energy
Washington, DC 20585

March 31, 2016

MEMORANDUM FOR THE ASSISTANT SECRETARY FOR ENERGY EFFICIENCY
AND RENEWABLE ENERGY

Sarah B. Nelson

FROM: Sarah B. Nelson
Assistant Inspector General
for Audits and Administration
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Management of the Solar Energy
Technologies Office's Technology to Market Program"

BACKGROUND

The Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technologies Office established the Technology to Market program as part of its efforts to make solar energy cost-competitive with other forms of electricity by the end of the decade. The program focuses on translating technology from the laboratory to the marketplace and includes manufacturing research and development to enable U.S. companies to compete globally. It also seeks to strengthen the Nation's competitive advantage in the associated solar energy manufacturing supply chain. Between April 2011 and March 2014, the program awarded 57 financial assistance agreements totaling about \$588.5 million, with the program's share totaling approximately \$215 million.

With the increasing importance of making solar energy resources affordable and available in the United States, we initiated this audit to determine whether the Technology to Market program managed financial assistance awards efficiently and effectively.

RESULTS OF AUDIT

We found that the program had generally established project management controls for its Technology to Market financial assistance agreements. For example, program officials communicated financial assistance agreement requirements to recipients, such as those for project reporting and invoicing, at the beginning of the projects and actively monitored awards through site visits and routine calls with the recipients. However, we identified financial management issues with one recipient, Soitec Solar Industries LLC (Soitec), which warranted attention. Soitec, the largest for-profit recipient in the program, claimed more than \$7 million in project costs on its first two invoices that were not adequately supported or were duplicative. After we brought these issues to the program's attention, officials took a number of actions and resolved the questioned costs.

Unsupported and Duplicative Costs Claimed

Our detailed review of Soitec found that it claimed more than \$7 million in project costs that were not sufficiently supported or were duplicative. The program had reimbursed Soitec more than \$1.3 million for these costs, with the remaining amounts being credited toward Soitec's required cost share.¹ Our audit included a review of Soitec's first two invoices. As of April 2014, it had submitted two invoices to the program totaling about \$86 million, including more than \$19.5 million submitted for reimbursement and more than \$66.5 million in reported cost share. Specifically, our review of these two invoices found that Soitec claimed approximately \$7 million in personnel and fringe costs based on estimated amounts without adequate documentation to support that the costs had actually been incurred. Soitec estimated its personnel costs by multiplying each employee's biweekly gross wages by the number of payroll periods the employee worked. Soitec estimated fringe costs by multiplying the monthly health care costs and payroll taxes it paid for each employee by the number of months the employee worked in the invoice period. However, Soitec did not reconcile these estimates with actual incurred costs prior to submitting the invoices.

We requested supporting documentation for the claimed personnel and fringe costs during our review; however, Soitec informed us that some of the supporting documentation did not exist. Per Title 10 CFR 600.312, *Payment*, financial assistance recipients are to submit requests for reimbursement based on costs incurred. Additionally, Soitec's financial assistance agreement states that allowable costs should be adequately documented and Soitec maintain records for all project costs, including cost share, and those records are subject to audit. However, Soitec was not able to provide us support for 7 of the 11 months of personnel and fringe costs claimed for one of the invoices nor for employer taxes claimed for the other invoice. Furthermore, when Soitec was able to provide us documentation, the information did not always reconcile to the amounts reported or there were errors in personnel calculations. For instance, the documentation provided to support health care costs did not always match the amounts claimed on one invoice. Therefore, we were unable to verify the amounts claimed were actually incurred, and thus questioned the full \$7 million in personnel and fringe costs on the two invoices, including \$1.3 million that had been reimbursed by the program.

We also found that Soitec claimed approximately \$39,300 in duplicate equipment costs. We judgmentally sampled about \$49.5 million of \$58.6 million in equipment costs to verify purchase orders, invoices, and proof of payment. Based on our review, we identified equipment purchases from two different vendors that were duplicated, one for about \$38,900 and another for about \$400, of which about \$10,000 was reimbursed by the program. We notified Soitec of the duplicative costs and in response, it reduced its next invoice to rectify the duplicate charges.

Contributing Factors

The issues we identified were due, in part, to Soitec's lack of understanding of Federal financial assistance award requirements. We also determined that Department guidance on required supporting documentation was inconsistent between postaward information presented to Soitec

¹ Per the financial assistance agreement, Soitec's cost share was at least 75 percent of the project costs.

and the financial assistance agreement. In addition, we were told that the Technical Project Officer had a very heavy workload of more than 100 awards, which made it difficult to provide adequate oversight.

Soitec officials asserted that a turnover in accounting staff maintaining the records for the award contributed to the lack of proper documentation for costs claimed. Officials also stated that because it was their first Federal financial assistance award, they were not clear on the requirements related to claiming actual costs. However, we noted that the program had provided a postaward presentation to Soitec that stated Soitec should only request reimbursement for incurred costs.

Program officials stated that they performed procedures, to include sampling, to verify costs; however, we found the program did not sufficiently review the limited information provided by Soitec to determine if it had submitted actual costs incurred for personnel and fringe. Officials also stated their efforts were focused on verifying the equipment purchases as they accounted for a higher percentage of the award. Department guidance was inconsistent as to what supporting documentation was required to be submitted to the program with the invoice. Specifically, the postaward presentation to Soitec noted that documents, such as timesheets and receipts, should be submitted; however, the financial assistance agreement did not include such a requirement.

Finally, the Technical Project Officer stated that due to a heavy workload, it was difficult to provide adequate oversight because he was responsible for more than 100 awards. He noted that redesigning the invoice review process would be beneficial. In October 2015, an EERE official stated that there was a plan to implement a risk-based approach to reviewing invoices across EERE and that a policy was being reviewed by senior management.

Subsequent Program Actions

In September 2014, after we brought these issues to the program's attention, officials rejected an invoice submitted by Soitec. They requested that Soitec provide adequate evidence and documentation to support direct personnel expenses from September 2012 to August 2014, as well as equipment purchases, to ensure the costs incurred and claimed were allowable, allocable, and reasonable. In October 2014, Soitec provided supporting and reconciliation documentation to program officials. In its reconciliation summary, Soitec reported that for the two invoices that we had reviewed, it had overstated its personnel costs by approximately \$675,000 and understated its fringe costs by about \$43,000. Further, Soitec reported that it had overstated its personnel costs by about \$9,000 and fringe costs by almost \$29,000 for the subsequent two invoices submitted that were not included in our review. We did not expand our audit to review the documentation that was subsequently provided to the program. Therefore, we did not determine the accuracy of Soitec's reconciliation and assertions concerning identified overstatements and understatements of reported costs.

In February 2015, a program official stated that a review of the documentation had not been conducted because they were waiting on the results of a public accounting firm's audit of Soitec's project. The public accounting firm's report, dated February 23, 2015, noted that Soitec did not have controls in place to ensure proper review and approval was performed and

documented prior to the submission of invoices to the program. It also identified the duplicate equipment costs already noted in our audit, a mathematical error in the cost schedule included with one invoice resulting in Soitec requesting reimbursement of approximately \$12,000 more than actually incurred, and \$12,500 in additional costs charged by a vendor that were deemed unallowable per the terms and conditions of the financial assistance agreement.

The public accounting firm recommended that Soitec perform an independent review of the previously submitted invoices to ensure there were no errors. Soitec management agreed with the findings, and in its response to the public accounting firm's report, management stated that it had reviewed in detail all the invoices and determined that (1) no additional costs for which reimbursement was requested were considered not in accordance with allowable costs per the financial assistance agreement, and (2) no additional invoices were accidentally requested for reimbursement more than once. Soitec's response appeared inconsistent with the invoice reconciliation it provided to the program prior to the public accounting firm's report concerning errors that resulted in over- and under-statements of costs. On June 10, 2015, the Contracting Officer sent Soitec a memo stating that the actions taken and planned did not satisfactorily resolve the issues identified in the report and requested a more comprehensive corrective action plan and estimated completion dates. The program also required Soitec to provide a summary of reconciled costs incurred.

In July 2015, the Technical Project Officer stated he confirmed Soitec's completion of the final project task, and Soitec had provided a complete reconciliation of all costs, which included adjustments based on our and the public accounting firm's findings. The Technical Project Officer recommended that Soitec be reimbursed for the remainder of the award, totaling approximately \$2.6 million, and the Contracting Officer asserted the Department was prepared to make the final payment. Even though we did not expand our audit to review the documentation Soitec provided, because the Contracting Officer was satisfied with the reconciliation and cost support, we consider the questioned costs resolved.

Further, in August 2015, program officials brought to our attention that the operations at the manufacturing facility that was funded by the award will cease and a shutdown of the facility was imminent. Soitec decided to exit the solar industry, and at the time, was not able to sell a portion of its solar business, to include the U.S. manufacturing facility.

Impact and Path Forward

Without supporting documentation of costs claimed, the program may be reimbursing recipients for costs that are not allowable, allocable, or reasonable, and recipients may not be meeting their cost share requirements.

RECOMMENDATIONS

To address the issues we identified, we recommend the Assistant Secretary for Energy Efficiency and Renewable Energy direct the Director of the Solar Energy Technologies Office to ensure:

1. Future financial assistance agreements describe the adequacy of documentation needed to support costs incurred;
2. Recipients submit adequate supporting documentation for project expenses reported to the program for reimbursement and as cost share; and
3. Documentation is adequately reviewed to make certain project costs are properly supported.

We also recommend that the Assistant Secretary for Energy Efficiency and Renewable Energy:

4. Finalize the policy related to the risk-based invoice review approach.

MANAGEMENT RESPONSE

Management generally concurred with the recommendations and indicated that corrective actions had been completed or planned to address the identified issues. Management acknowledged the importance of communicating to recipients what documentation is adequate to support the costs incurred and that more can be done to educate recipients. However, management only partially concurred with Recommendation 1 because it believed that detailed guidance describing the adequacy of documentation needed to support costs is best presented to recipients outside of the award agreement. Instead, management plans to develop detailed guidance outlining examples of appropriate supporting documentation for specific invoices/claimed costs and to discuss the guidance extensively during kickoff meetings with the recipients to satisfy Recommendations 1 and 2. Management also noted that it increased its Technical Project Officer staff by two to ensure more thorough project cost reviews. In addition to verifying and accepting completion of deliverables, the program reviews supporting documentation, such as invoices, certified time cards, and pay stubs, and will reject payments if the documentation is inadequate. Finally, a risk-based review policy was approved in February 2016 and is expected to be fully implemented by November 2016. Management's formal comments are included in Attachment 3.

AUDITOR COMMENTS

Management's comments and corrective actions are responsive to our recommendations. Even though management only partially concurred with Recommendation 1, the alternate action to develop detailed guidance for recipients adequately addresses the recommendation.

Attachments

cc: Deputy Secretary
Chief of Staff
Under Secretary for Science and Energy

OBJECTIVE, SCOPE, AND METHODOLOGY

OBJECTIVE

To determine whether the Solar Energy Technologies Office's Technology to Market program managed financial assistance awards efficiently and effectively.

SCOPE

The audit was performed between April 2014 and March 2016 at the program's headquarters in Washington, DC, and the Golden Field Office in Golden, Colorado. We focused on awards issued between 2011 and 2014 and conducted a site visit to Soitec Solar Industries LLC (Soitec), in San Diego, California. The audit was conducted under Office of Inspector General project number A14DN035.

METHODOLOGY

To accomplish our audit objective, we:

- Reviewed applicable laws, regulations, policies, and procedures.
- Reviewed relevant prior Office of Inspector General and Government Accountability Office reports.
- Interviewed key program personnel in Washington, DC, and at the Golden Field Office.
- Identified a universe of 26 for-profit financial assistance recipients with awards totaling \$199 million, or 34 percent of the total amount awarded in 2013 or earlier and with a project end date of May 2014 or later. Of that amount, \$64.7 million was the program's share. We judgmentally selected Soitec with the largest award in the program, totaling \$91.1 million, with program cost share of \$22.8 million. The sample selection was based on factors such as dollar value, project progress, and percentage expended.
- Conducted a detailed review of Soitec, to include an evaluation of the budget, award justification, procurement, adequacy of supporting documentation for payments, cost share contributions, goals and milestones, and compliance with laws, regulations, policies, and procedures.
- Reviewed two invoices submitted by Soitec to the program totaling approximately \$86 million in project costs, focusing our review on personnel, fringe, and equipment costs, because they represented 76 percent of the project costs.
 - For personnel and fringe cost testing, we judgmentally selected 4 of 40 employees from the schedule of personnel costs provided to the Department of Energy for one of the two invoices, representing about \$267,000, or 11 percent of the approximate \$2.4 million in project personnel and fringe costs included in

that invoice. We obtained documentation for these four employees to confirm such attributes as date of hire, pay rate, healthcare costs, and tax costs. Factors considered in our selection included employee classification and pay rate. However, we were unable to test the accuracy of the costs for personnel and fringe on this invoice because the amounts provided to the Department were estimated, and Soitec could not provide a reconciliation of those estimated amounts to the actual costs incurred. We were also unable to test personnel and fringe costs totaling approximately \$4.6 million for the second invoice in our sample, because Soitec was unable to provide us detailed documentation supporting those costs.

- For equipment cost testing, we judgmentally sampled 18 of 62 vendor invoices totaling more than \$49.5 million, or 84 percent of the equipment expenses for the two invoices reviewed, to verify costs were allowable and supported. Our sample was based on factors such as vendor invoice amount and dollar percentage of the reimbursement request.
- Conducted a site visit to Soitec where we interviewed key personnel; reviewed and analyzed supporting documentation, including invoices, purchase orders, and requests for payments; obtained an overview of the project; and evaluated the performance of the award.

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 objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Accordingly, the audit included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the objective. We considered the Department's implementation of the *GPRRA Modernization Act of 2010* and determined it had established performance goals for the Solar Energy Technologies Office. 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. We conducted a reliability assessment of computer-processed data relevant to our audit objective by comparing the data to source documents. We deemed the data to be sufficiently reliable for our purposes.

Management waived the exit conference on February 26, 2016.

PRIOR REPORT

Audit Report on [Solar Technology Pathway Partnerships Cooperative Agreements](#) (OAS-M-11-02, March 2011). The audit found that the Department of Energy's financial monitoring of the \$120 million expended for these projects was not always adequate. Specifically, the Department had neither ensured that recipients complied with audit requirements, nor had it requested audits of costs incurred by recipients. Problems with financial monitoring were caused by insufficient Departmental guidance concerning audits of for-profit organizations receiving financial assistance. Additionally, although the cooperative agreements referenced the Federal regulations, they did not specifically explain the audit requirement, provide guidance about how the audits were to be conducted, or include the audits in the checklist of required documentation to be submitted by recipients. Program officials acknowledged that they had not required recipients to conduct internal control and compliance audits, citing the lack of guidance.

MANAGEMENT COMMENTS



Department of Energy

Washington, DC 20585

February 23, 2016

MEMORANDUM FOR: DANIEL M. WEEBER
ASSISTANT INSPECTOR GENERAL
FOR AUDITS AND INSPECTIONS
OFFICE OF INSPECTOR GENERAL

FROM: DOUGLAS W. HOLLETT
DEPUTY ASSISTANT SECRETARY *D. Chalk*
FOR RENEWABLE POWER
ENERGY EFFICIENCY AND RENEWABLE ENERGY

SUBJECT: Response to the Office of Inspector General Draft Report on
"Management of the Solar Energy Technologies Office's
Technology to Market Program"

The Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), appreciates the opportunity to review the Office of Inspector General's (OIG) Draft Audit report "Management of the Solar Energy Technologies Office's Technology to Market Program."

EERE takes very seriously its responsibility to oversee each funded project to ensure that funds are properly spent while adhering to regulation and EERE guidelines for Active Project Management (APM), and are in alignment with the Department's technical and programmatic goals. We continue to strengthen project management practices throughout EERE, including in the Solar Energy Technologies Office (SETO) and in our financial assistance efforts.

EERE appreciates the opportunity to respond to the OIG's recommendations. EERE partially concurs with the OIG's first recommendation and concurs with the remaining three recommendations. Rationale supporting our partial concurrence is provided below.

Recommendation 1. Future financial assistance agreements describe the adequacy of documentation needed to support costs incurred.

EERE Management Response: Partially Concurs. EERE agrees it is important to communicate to recipients what documentation is adequate to support costs incurred, and that more can be done to educate recipients. The EERE Special Terms and Conditions, approved by DOE Headquarters Procurement Policy, specify that recipients submitting requests for reimbursement must provide an electronic file containing appropriate supporting documentation, and must show the Federal share, the non-Federal share, and cumulative expenditures to date for each cost category. The EERE payment authorizing official may, if needed, request additional information prior to release of funds. If deliverables are accepted, or if adequate supporting documentation is not received, payments are rejected in accordance with 2 CFR § 910.354.

The basis for partial concurrence is that EERE believes detailed guidance is best presented to recipients outside of the award agreement. Such guidance will allow EERE to engage with applicants earlier in the process and include multiple and varied examples without risk of recipients believing the examples in the terms are all-inclusive. Therefore, EERE will develop detailed guidance outlining examples of appropriate supporting documentation for specific

invoices/claimed costs. This guidance will be provided to recipients and discussed extensively during the kickoff meeting and posted on EERE's Recipients Resource page.

Completion date: Guidance will be completed and available by October 1, 2016.

Recommendation 2. Recipients submit adequate supporting documentation for project expenses reported to the Program for reimbursement and as cost share.

EERE Management Response: Concur. EERE concurs that more can be done to educate recipients by developing detailed guidance that includes examples of appropriate supporting documentation. EERE has a number of internal controls in place to support proper invoice justification. For example, Tech-to-Market award recipients must meet milestones and submit deliverables prior to submitting invoices. Though run on a trial basis previously, milestone-based payments were approved for all Solar Tech-to-Market FOAs published to date. The Solar Energy Technologies Office performs on-site and virtual kick off meetings, and has developed recipient guidance documents to assist them in providing required supporting documentation. Follow-up conference calls are used to clarify requirements, and to reinforce understanding of the process. As previously stated, EERE will develop detailed guidance outlining examples of appropriate supporting documentation for specific invoices/claimed costs. This guidance will be provided to recipients, discussed during kickoff meetings and posted on EERE's Recipients Resource page.

Completion date: Guidance will be completed and available by October 1, 2016.

Recommendation 3. Documentation is adequately reviewed to make certain project costs are properly supported.

EERE Management Response: Concur. To ensure thorough project cost reviews, SETO increased its Technical Project Officer staff to six--two more than when this review occurred. EERE's internal controls also support proper invoice justification. Payments are dependent on submission, verification and acceptance of deliverables and supporting documentation. Technical Managers confirm completion of deliverables, and inform recipients when to request reimbursement, provided costs are reasonable, allowable, allocable, and adequately supported. SETO reviews supporting documentation and approves or rejects and requests further information. Supporting documents include invoices, contracts, vendor quotes, certified time cards, pay stubs, and other explanations. Reviews include detailed comparison of requests with Statement of Project Objectives, approved budget, and work completed. If deliverables are not met, or supporting documentation is inadequate, payments are rejected per 2 CFR § 910.354.

Estimated completion date: The additional TPOs were fully engaged in project cost reviews by January 29, 2016. EERE considers this recommendation closed.

Recommendation 4: That the Assistant Secretary for EERE finalize the policy related to the risk-based invoice review approach.

EERE Management Response: Concur. EERE has completed a review of the centralized invoice review pilot. The Golden Field Office has had discussions with EERE management regarding the impact and results from the pilot. Based on these discussions, a risk-based invoice review policy was approved on February 9, 2016. Full implementation (including development and training) is expected by November 2016.

Estimated completion date: November 30, 2016.

FEEDBACK

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