



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

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# AUDIT REPORT

Office of Science's Bioenergy Research Centers

OAI-M-16-01

October 2015

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**Department of Energy**  
Washington, DC 20585

October 22, 2015

MEMORANDUM FOR THE ACTING DIRECTOR, OFFICE OF SCIENCE

*April Stephenson*

FROM: April G. Stephenson  
Assistant Inspector General  
for Inspections  
Office of Inspector General

SUBJECT: INFORMATION: Audit Report: "Office of Science's Bioenergy Research Centers"

BACKGROUND

In September 2007, Office of Science's (Science's) Office of Biological and Environmental Research (BER) established three Bioenergy Research Centers (Centers) to focus the most advanced biotechnology-based resources on the challenges of biofuel production:

- BioEnergy Science Center (BESC) led by Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee;
- Great Lakes Bioenergy Research Center (GLBRC) led by the University of Wisconsin in Madison, Wisconsin, in close collaboration with Michigan State University in East Lansing, Michigan; and
- Joint BioEnergy Institute (JBEI) led by Lawrence Berkeley National Laboratory (LBNL) in Emeryville, California.

Science has committed nearly \$793.5 million to the Centers over a 10-year period. Each Center was provided \$10 million in start-up funding and receives about \$25 million per year. The *American Recovery and Reinvestment Act of 2009* provided an additional \$13.5 million in funding. The ultimate goal for the three Centers is to provide the fundamental science to underpin a cost-effective, advanced cellulosic biofuels industry. Due to the significant level of funding and importance of the research, we initiated this audit to determine whether Science effectively managed the Centers.

RESULTS OF AUDIT

Nothing came to our attention to indicate that Science's management of the Centers was not generally effective. The Centers were generally satisfying the specific Federal, Department of Energy (Department), and programmatic requirements that we evaluated in our review. We

found, for example, that Federal officials required management plans for each Center, the Centers were reporting that they were meeting performance goals within scheduled time frames, and each of the Centers had been externally reviewed on an annual basis since being established. Although our review did not identify material concerns, we identified costs at the three Centers that warrant management attention:

- \$303,796 for Animal Care and Use Committee (Committee) costs allocated to BESC and not to all other organizations benefiting from the services.
- \$2,275 for travel costs at two Centers. Additionally, we found that ORNL's policy for providing refreshments at meetings exceeded the Department's guidance for refreshment costs.

### **Animal Care and Use Committee**

Between fiscal years 2008 and 2014, ORNL allocated \$303,796, or approximately 33 percent of the Committee's total costs for this period, to BESC although other programs benefited from the functions and did not receive an allocation of the costs. ORNL officials explained that they included all Committee costs in the BER expense pool. The Committee costs were then allocated to all BER-funded programs, including BESC, based on the amount of funding received, regardless of the benefit of Committee's services received. The Committee provides oversight for programs using animals in experiments, including the required veterinary services and research protocol reviews to maintain an accredited animal care program at ORNL.

We found that other programs at ORNL that used Committee services did not contribute to the Committee's funding. ORNL officials told us that, when the Committee was established, BER's genomics program was the exclusive user of its services. However, our review of animal research protocols illustrates that this is no longer the case. Since October 1, 2007, only 9 of the 65 protocols for animal research the Committee approved related to research directly funded by BER. For example, the Office of Energy Efficiency and Renewable Energy funded fish research that received Committee oversight and services but was not allocated any of the Committee's costs. Although the Committee no longer serves BER programs exclusively, ORNL has not updated its cost allocation method to reflect the benefit by other programs. A Department official in the Oak Ridge Site Office agreed the entire laboratory benefited from the functions of the Committee and stated, as a result of our review, they are reviewing the allocation method for the Committee costs.

Cost Accounting Standard 418, *Allocation of direct and indirect costs*, requires that indirect costs be accumulated in indirect cost pools that are homogenous and allocated based on a beneficial or causal relationship of the pooled costs to cost objectives. Although nothing came to our attention to indicate that the Committee costs were not allowable, we consider the amount allocated to BESC of \$303,796 to be unresolved pending ORNL revising the indirect cost allocation base to include other program offices that benefited from the costs.

## **Travel and Refreshment Expenses**

In addition to the costs discussed above, we also questioned \$2,275 in travel costs at two Centers that we considered potentially unallowable per Federal cost principles. These costs primarily related to lodging, meals, and refreshments that exceeded limits prescribed by the General Services Administration policies or Department guidelines. JBEI told us that subsequent to incurring the \$1,425 in its travel costs we questioned, LBNL implemented and enforced tighter controls on travelers' per diem reimbursements and airfare purchases. At GLBRC, the vendor's invoice for the \$850 cost we questioned lacked detail to adequately review the costs being charged. As a result of our audit, GLBRC further reviewed the invoice and identified an additional \$405 in unallowable costs for alcoholic beverages that the Department subsequently recovered.

Finally, it came to our attention that ORNL's policy for providing refreshments at meetings exceeded the Department's guidance for refreshment costs. Specifically, BESC followed ORNL's Conference/Meeting Expense Business Rules that allowed refreshments at meetings totaling up to 40 percent of the General Services Administration's per diem allowances for meals and incidental expenses (a limit of 20 percent per break for up to two breaks per day). However, Department guidelines provide a benchmark for light refreshments at 25 percent of per diem allowances. The Department's benchmark was developed to help contracting officers assess the reasonableness of refreshment costs for contractors. In our sample of financial transactions, we identified one meeting where BESC received reimbursement for refreshment costs exceeding the Department's 25 percent benchmark. However, in this instance, we noted that ORNL employees who had attended the conference treated the morning break as a breakfast and reduced the per diem charged on their travel voucher offsetting the additional break costs. Despite this offset, ORNL still exceeded the Department's 25 percent benchmark for non-ORNL attendees. To reduce the risk of reoccurrence, we suggest the Contracting Officer review this policy to ensure that refreshment costs are reasonable.

## **Impact**

Given the importance of the Centers' objectives to advance cellulosic biofuels research, it is imperative that taxpayer dollars are spent as efficiently and effectively as possible. Allocating costs inappropriately and paying for unallowable costs divert funds away from this important scientific research.

## **RECOMMENDATIONS**

To address the issues noted in this report and ensure that the Centers use available resources to maximize their pursuit of science, we recommend that the Acting Director, Office of Science, direct the appropriate Contracting Officer to:

1. Determine whether the allocation of Animal Care and Use Committee costs complies with contract terms and conditions, including the Cost Accounting Standards;

2. Make a final determination on the allowability of the questioned costs and recover those costs determined to be unallowable; and
3. Verify that the Centers have conference/meeting expense policies that comply with applicable regulations and guidance.

#### MANAGEMENT RESPONSE

Management concurred with the report's recommendations and provided corrective actions to address the issues identified in the report. The Office of Science will review the questioned costs and determine whether the allocation of the Animal Care and Use Committee costs complies with contract terms and conditions, including Cost Accounting Standards. In addition, the respective Contracting Officer for each Center will review other questioned costs, determine allowability, and recover any costs determined to be unallowable. Finally, the Contracting Officers will also verify that each Center's conference and meeting expense policy complies with applicable regulations and guidance. Management's formal comments are included in Attachment 3.

#### AUDITOR COMMENT

We consider management's comments and planned corrective actions to be responsive to our findings and recommendations.

#### Attachments

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

## **OBJECTIVE, SCOPE, AND METHODOLOGY**

### **OBJECTIVE**

The objective of this audit was to determine whether the Office of Science (Science) effectively managed the Bioenergy Research Centers (Centers).

### **SCOPE**

We conducted the audit from August 2014 to October 2015. We visited each of the Centers: the BioEnergy Science Center (BESC), located at the Oak Ridge National Laboratory in Oak Ridge, Tennessee; the Joint BioEnergy Institute (JBEI), located at the Lawrence Berkeley National Laboratory in Emeryville, California; and the Great Lakes Bioenergy Research Center (GLBRC), located at the University of Wisconsin in Madison, Wisconsin. The scope of the audit covered the operation of the three Centers from fiscal years 2007 through 2014. We limited our cost review, however, to the more recent fiscal years 2011 through 2014. We conducted this audit under Office of Inspector General project number A14CH058.

### **METHODOLOGY**

To accomplish the audit objective, we:

- Reviewed and evaluated relevant laws and regulations related to the Centers.
- Interviewed Science personnel from the Biological and Environmental Research program responsible for managing the Centers, as well as personnel located in field offices.
- Conducted site visits to the three Centers to observe the facilities and assets purchased.
- Held discussions with management personnel at each of the Centers.
- Selected and reviewed a judgmental sample of financial transactions recorded by each of the Centers to ensure the transactions were appropriate and sufficiently documented. We received data on financial transactions recorded through August 31, 2014, for BESC and GLBRC, and through July 31, 2014, for JBEI. There were 148,482 financial transactions totaling more than \$238 million at the three Centers. We judgmentally selected transactions based on the dollar amount and description, attempting to choose at least one transaction from each cost category defined by each of the Centers. As a result, we sampled 300 transactions totaling nearly \$21 million. For our review, we traced the costs to supporting documents and tested compliance with the Federal cost principles, as prescribed by the terms and conditions of the awards. Because our sample was not statistical, we could not project our results to the population of transactions.

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 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 necessary to satisfy the audit objective. In particular, we assessed the implementation of the *GPR Modernization Act of 2010* and found that Science had not established performance measures for the Centers. 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 found it to be reliable.

Management waived an exit conference on October 8, 2015.

## PRIOR REPORTS

- Audit Report on [\*The Department of Energy's Energy Innovation Hubs\*](#) (OAS-M-13-08, September 2013). Generally, the Energy Innovation Hubs initiative was satisfying the specific Federal, Department of Energy, and programmatic requirements evaluated in the audit. However, the audit identified areas of potential cost savings related to conferences and meetings, as well as weaknesses in the internal controls over conflict of interest disclosure procedures for merit reviewers during the award selection process.
- Audit Report on [\*Office of Science's Energy Frontier Research Centers\*](#) (OAS-RA-L-10-09, August 2010). Nothing came to the auditors' attention to indicate that the Office of Science had not established appropriate controls or complied with the *American Recovery and Reinvestment Act of 2009* requirements. The report noted that the Office of Science would need to continue its oversight and monitoring of the Energy Frontier Research Centers because they were newly established and displayed characteristics that increased complexity and risk.

MANAGEMENT COMMENTS



Department of Energy  
Office of Science  
Washington, DC 20585

Office of the Director

OCT 05 2015

MEMORANDUM FOR APRIL G. STEPHENSON  
ASSISTANT INSPECTOR GENERAL  
FOR INSPECTIONS  
OFFICE OF INSPECTOR GENERAL

FROM: PATRICIA M. DEHMER *Patricia M. Dehmer*  
ACTING DIRECTOR, OFFICE OF SCIENCE

SUBJECT: Response to Inspector General's Draft Report, "Office of  
Science's Bioenergy Research Centers"

Thank you for the opportunity to review and comment on the subject draft report. The Office of Science (SC) is pleased that the Inspector General found the management of the Centers are generally effective and satisfying the specific Federal, Department of Energy, and programmatic requirements. The Office of Science response to the recommendations follows:

**Recommendation 1:** Determine whether the allocation of Animal Care and Use Committee costs complies with contract terms and conditions, including the Cost Accounting Standards.

**Management Response:** Concur

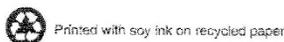
Given that the BioEnergy Science Center does not conduct any vertebrate animal research at Oak Ridge National Laboratory, it is appropriate that SC recover funds allocated to support the Animal Care and Use Committee.

**Action Plan:** The SC Contracting Officer will review the questioned costs and will determine whether the allocation of Animal Care and Use Committee costs complies with contract terms and conditions, including the Cost Accounting Standards.

**Estimated Completion Date:** December 1, 2015

**Recommendation 2:** Make a final determination on the allowability of the questioned costs and recover those costs determined to be unallowable.

**Management Response:** Concur



**Action Plan:** The respective SC Contracting Officer for each Center will review the questioned costs and determine allowability. SC will recover any costs determined to be unallowable.

**Estimated Completion Date:** December 1, 2015

**Recommendation 3:** Verify that the Centers have conference/meeting expense policies that comply with applicable regulations and guidance.

**Management Response:** Concur

SC is committed to rigorous oversight and accounting of expenditures related to conferences, meetings, meals, and refreshments. Scrutiny of these expenditures has increased over the past year, and SC concurs that holding grantees and contractors accountable to the rules for allowable costs is important and vital to safeguarding against abuse of federal funds.

**Action Plan:** The respective SC Contracting Officer will verify that each Center has conference/meeting expense policies that comply with applicable regulations and guidance.

**Estimated Completion Date:** December 1, 2015

If you have any questions on these comments, please contact Kent Peters at 301-903-5549.

## **FEEDBACK**

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Office of Inspector General (IG-12)  
Department of Energy  
Washington, DC 20585

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