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

# AUDIT REPORT

## The Department of Energy's Participation in Energy Incentive Programs

OAS-M-15-03

April 2015

**Department of Energy**
Washington, DC 20585

April 8, 2015

MEMORANDUM FOR MANAGER, ARGONNE SITE OFFICE
MANAGER, RICHLAND OPERATIONS OFFICE

FROM: Jack Rouch, Director
Central Audits Division
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "The Department of Energy's Participation in Energy Incentive Programs"

BACKGROUND

Designed to offset energy costs, energy incentive programs are typically offered by state agencies and utility providers. Federal entities are eligible for a variety of incentives, including incentives for energy-efficient, new construction and energy conservation measures in existing facilities. According to the *National Energy Conservation Policy Act* (Act), as amended in 2005, Federal agencies are directed to take maximum advantage of financial incentives and other forms of financing to reduce direct energy costs to the Government.

Each Department of Energy (Department) site is responsible for implementing the requirements of the Act and managing its participation in energy incentive programs. While there are numerous types of incentive programs, each site's circumstances can vary greatly in terms of eligibility for available programs. For example, some Department offices, such as the National Nuclear Security Administration, cannot participate in certain incentive programs due to mission requirements that do not allow for a reduction or shift in energy consumption, funding, or resources. Similarly, some utilities choose not to offer energy incentive programs because rates are already set favorably. Although available incentive programs vary from site to site, numerous incentive opportunities exist. We initiated this audit to determine whether the Department had taken advantage of available energy incentive programs.

RESULTS OF AUDIT

Our review of seven Department sites found that they had generally participated in available energy incentive programs. For example, since 2010, the Thomas Jefferson National Accelerator Facility and the Fermi National Accelerator Laboratory had received about $820,000 and $1.8 million, respectively, in energy incentives for participation in curtailment programs offered by their utility providers. Additionally, since 2010, Argonne National Laboratory (Argonne) had received more than $350,000 in incentive funding for conservation projects completed at the site.

Two of the seven sites, however, had not taken full advantage of available incentives:

- The Hanford Site (Hanford) had not applied for energy incentives available for two newly constructed facilities. Further, although Argonne ultimately applied for incentives for two newly constructed facilities, at the time of our site visit in July 2013, Argonne personnel stated they were not aware of the availability of such incentives.

- Hanford and Argonne had not applied for incentives for all energy conservation measures in existing facilities.

Incentive opportunities were missed because Hanford and Argonne personnel were not consistently focused on or aware of available energy incentive programs. By ensuring that sites are participating in available incentive programs, the Department can maximize energy cost savings.

## New Construction Projects

We found that Hanford had not taken advantage of available incentives for new construction projects and that although Argonne ultimately applied for construction incentives, at the time of our site visit, Argonne personnel stated they were not aware of these incentives. Incentive funding for new construction projects is offered through state agencies and utility providers. Eligible projects include construction of new facilities or additions and renovations that produce energy savings through efficiency improvements in buildings, equipment, or processes. Incentive amounts are calculated based on the amount of annual energy savings. These types of energy incentives were available to both Hanford and Argonne.

Hanford missed the opportunity to apply for and receive incentives for two new construction projects. Beginning in October 2006, Hanford was eligible for Conservation Acquisition Agreements offered by the Bonneville Power Administration (BPA), the site's utility provider. This program, which ended in October 2011, provided financial incentives to large commercial customers for the development and installation of electric energy efficiency measures in their facilities. BPA customers were given the option to submit incentive proposals and receive funding for new construction projects. Based on the merit of the proposal and the reasonableness of the incentive requested, BPA and the customer would enter into a Conservation Acquisition Agreement to help reduce the cost of the project. Hanford's Pump and Treat Facility, a project that began construction in May 2008 and was completed in June 2012, was eligible for incentive funding. While Hanford could have received about $63,000 in incentives through a Conservation Acquisition Agreement for realized annual energy savings, it did not consider submitting a proposal to BPA for this project, a process that Hanford stated would not have been onerous. Similarly, Hanford began an expansion of its Environmental Restoration Disposal Facility in May 2009, which was also eligible for incentives through a Conservation Acquisition Agreement. This project, which installed an energy-efficient pump, was completed in December 2010 without any incentives being considered. Hanford was unable to quantify the amount of missed incentives because it had not tracked the amount of annual energy savings realized by the energy-efficient equipment installed.

Additionally, we noted that Argonne had not applied for energy incentives for two eligible new construction projects prior to our site visit in July 2013. After Argonne officials we interviewed stated that they were not aware of the availability of new construction incentives, we informed these officials that new construction incentives were in fact offered through a State of Illinois program, which had begun in June 2008. Argonne personnel subsequently submitted an incentive application in November 2013 for their Energy Sciences Building (ESB) upon completion of construction, which had begun in August 2011. Argonne expects to receive approximately $398,000 in total incentives as a result of annual energy savings. Although they were unaware of the specific incentive at the time of our visit, Argonne personnel have since stated that they were aware that incentives for new construction existed, and they would have subsequently identified and applied for the incentive during the normal course of business. Argonne personnel indicated that, based on lessons learned from the ESB, they took steps to submit an application for another newly constructed facility, the Advanced Protein Crystallization Facility. Construction of this facility began in August 2011, and an incentive application was submitted in August 2014, during the course of our audit. Argonne has requested about $133,000 in total incentives for annual energy savings at the Advanced Protein Crystallization Facility. As of August 2014, the State of Illinois was reviewing this application.

## Conservation Projects

In addition, while Argonne and Hanford had taken advantage of some incentives for energy conservation measures in existing facilities, neither had consistently taken advantage of all incentives. Department sites can participate in energy incentive programs through energy savings performance contracts (ESPCs). An ESPC is a partnership between a Federal agency and an energy service company. The energy service company conducts a comprehensive energy audit of Federal facilities and identifies specific energy conservation measures. Together with the Federal agency, the energy service company designs and constructs a project that meets the agency's needs and arranges the necessary funding. The energy service company guarantees that the measures will generate energy cost savings to pay for the project over the term of the contract. In addition to the savings realized through the ESPC, the completed energy conservation measures may also be eligible for energy incentives through state or local programs. However, Hanford and Argonne did not take full advantage of such incentives:

- Hanford had executed an ESPC in 2008 but had not applied for energy incentives available through its utility provider. Through this ESPC, Hanford was eligible for approximately $127,500 in incentives for completed energy conservation measures, such as upgrades to heating, cooling, and boiler equipment. The ESPC stated that all of the incentives would be used directly by Hanford to help defray the ESPC implementation costs. Despite these incentives being clearly identified in the ESPC, no one at Hanford completed or submitted the incentive application necessary to receive the incentives.

- Argonne had executed an ESPC in 2009 but had not applied for available energy incentives through a State of Illinois program. The ESPC included five energy conservation measures to upgrade lighting, air handling, cooling, and heating equipment for Argonne's Advanced Photon Source. Three of the five energy conservation measures were eligible for incentives. However, incentives were not considered or quantified for these measures. The other two measures included in the ESPC were not eligible for incentives because their payback periods exceeded the maximum time frame of 7 years.

### Implementation of Incentives

We found that the issues we observed at Hanford and Argonne occurred because of a lack of consistent focus on incentive programs or a lack of consistent follow-through by site personnel. At Hanford, site personnel responsible for the projects described in this report were unaware of all available energy incentives for new construction offered by their utility provider. During this time, while Hanford fully utilized incentives from one program available through its utility provider, it did not maximize the use of all available incentives. With respect to Argonne's new construction project, the site's focus was on construction of the ESB and not on available incentives.

Further, Argonne staff stated that potential reasons for not applying for conservation incentives included focus on smaller, in-house energy projects and lack of dedicated staff to manage incentives. Regarding Hanford's conservation project, site personnel were aware of the available energy incentives but had no knowledge as to why an application was not submitted. The ESPC stated that Hanford would be responsible for applying for about $127,500 in incentives. Hanford, however, never applied for the incentives. This lack of follow-through by site personnel resulted in the site losing the entire incentive.

Since our site visit, Argonne has initiated a formal procedure to ensure that personnel follow through on energy incentives for existing buildings and new construction. Additionally, we noted that Hanford recently acted to preserve energy incentives from BPA for future use that it otherwise would have lost.

### Impact

By not identifying and applying for available energy incentives, the Hanford and Argonne sites missed out on potential cost savings that could have been reallocated to support their missions. We identified a total of $190,500 in quantifiable savings that one site had forgone, as well as additional savings opportunities that we were unable to quantify.

## RECOMMENDATION

To maximize savings through energy incentives, we recommend that the Managers, Argonne Site Office and Richland Operations Office, take steps to ensure that their sites are focused and follow through on all available energy incentive programs.

## MANAGEMENT REACTION

Management at the Argonne Site Office and the Richland Operations Office agreed with the report's recommendation. Both sites reported that they had already taken steps to improve their processes concerning energy incentives. The Richland Operations Office stated that it would work with its site contractors and BPA to develop a plan to improve the site's participation in the available utility incentive program. The Argonne Site Office stated that it had developed and implemented a standard operating procedure to ensure that available energy incentives are identified and pursued in the earliest stages of project development. Management's comments are included in Attachment 3.

AUDITOR COMMENTS

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

Attachments

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

# OBJECTIVE, SCOPE, AND METHODOLOGY

## OBJECTIVE

The objective of the audit was to determine whether the Department of Energy (Department) had taken advantage of available energy incentive programs.

## SCOPE

The audit was conducted between July 2013 and April 2015, at seven Department sites: Argonne National Laboratory in Lemont, Illinois; Fermi National Accelerator Laboratory in Batavia, Illinois; the Hanford Site and Pacific Northwest National Laboratory in Richland, Washington; Thomas Jefferson National Accelerator Facility in Newport News, Virginia; the Kansas City Plant in Kansas City, Missouri; and the Pantex Plant in Amarillo, Texas. We limited our scope to energy incentive programs available at these sites. The audit was conducted under Office of Inspector General Project Number A13HQ047.

## METHODOLOGY

To accomplish the audit objective, we:

- Reviewed applicable Federal and Department regulations and guidance;
- Reviewed energy incentive program guidance;
- Judgmentally selected a sample of seven Department sites based on geographic location and utility providers. Because our sample was judgmentally selected, we could not project our findings across all Department sites;
- Reviewed energy incentive programs available in the states of selected sites; and
- Conducted interviews with site, utility, and incentive program personnel to determine eligibility for and participation in energy incentive programs.

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 establishment of performance measures that included certain aspects of compliance with the *GPRA Modernization Act of 2010*, as necessary to accomplish the objective. 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 limited reliability assessment of computer-processed data relevant to our audit objective and deemed the data to be sufficiently reliable.

Management officials waived an exit conference.

## PRIOR REPORTS

- Audit Report on *The Department of Energy's Opportunity for Energy Savings Through the Use of Setbacks in Facilities* (DOE/IG-0817, July 2009). The audit found that the Department of Energy (Department) either did not use or failed to properly maintain setback systems in a number of instances. At four of the sites visited, the Department had not ensured setback conservation methods were used for 35 of the 55 (approximately 64 percent) owned or leased buildings included in the review. Of the 35 buildings, 20 did not utilize setbacks, and 15 had setbacks that were disabled or deteriorated. With nearly $300 million in annual utility costs, the audit found the Department could save more than $11.5 million in annual utility costs by using setbacks in all buildings.

- Audit Report on *The Department of Energy's Opportunity for Energy Savings Through Improved Management of Facility Lighting* (DOE/IG-0835, June 2010). The audit found that the seven sites included in the review had not always taken advantage of lighting technology opportunities to reduce energy consumption and save taxpayer dollars. While sites had, to varying degrees, begun to update lighting, significant opportunities for conservation remained. Specifically, sites had not always used the most efficient lighting, implemented energy-efficient lighting technologies, and maximized the energy savings associated with installing automated lighting control systems. Using a conservative estimate, the audit found that had the Department employed the latest lighting technologies, it could have saved enough electricity to power more than 3,200 homes per year.

- Audit Report on *Opportunities for Energy Savings at Department of Energy Facilities* (DOE/IG-0869, August 2012). The audit found that the Department had not always pursued readily available, low-cost, energy-saving opportunities. Three of the five sites reviewed had not always identified or implemented low- and no-cost, quick payback energy conservation measures discovered during facility evaluation. Two of the five sites had not fully evaluated existing buildings to determine whether building systems such as heating and lighting were operating as intended. In addition, the audit team identified opportunities to improve energy conservation through the use of electricity metering data. According to the report, the Department could have saved about $6.6 million annually, of the $42 million in available energy-saving opportunities as defined by the *Energy Independence Security Act of 2007* requirements.

## MANAGEMENT COMMENTS

**Department of Energy**
Washington, DC 20585
February 27, 2015

MEMORANDUM FOR JACK ROUCH
DIRECTOR
CENTRAL AUDITS DIVISION
OFFICE OF INSPECTOR GENERAL

FROM: MARK WHITNEY
ACTING ASSISTANT SECRETARY
FOR ENVIRONMENTAL MANAGEMENT

SUBJECT: Management Response to the Office of Inspector General Draft Audit Report, *The Department of Energy's Participation in Energy Incentive Programs*

This memorandum is in response to your January 23 memorandum regarding the Draft Audit Report, *The Department of Energy's Participation in Energy Incentive Programs,* addressed to our Richland Operations Office (RL), requesting RL to review and comment on the subject draft audit report.

RL has reviewed the information in the draft with respect to the facts presented, conclusions reached, and appropriateness of the recommendations. RL agrees with the recommendation to take steps to ensure that the site is focused on all available energy incentive programs and to follow through on the efforts to obtain the available energy incentive funds in order to maximize savings through energy incentives. RL submitted the Management Response to the Office of Environmental Management Headquarters for concurrence on February 12 (attached). I have reviewed the document and concur with their proposed implementation steps. My office will work closely with RL to ensure that your recommended actions are completed by June 30, 2016.

If you have any questions, please contact me or Mr. Mark Gilbertson, Deputy Assistant Secretary for Site Restoration, at (202) 586-0755.

Attachment

cc: Mark Gilbertson, EM-10
William Levitan, EM-10

Printed with soy ink on recycled paper

United States Government | Department of Energy

# memorandum

Richland Operations Office

DATE: FEB 12 2015

REPLY TO ATTN OF: FIN:TCH/15-FIN-0028

SUBJECT: MANAGEMENT RESPONSE TO THE OFFICE OF INSPECTOR GENERAL DRAFT AUDIT REPORT ON "THE DEPARTMENT OF ENERGY'S PARTICIPATION IN ENERGY INCENTIVE PROGRAMS IG-324 (A13HQ047)"

TO: M. A. Gilbertson, Deputy Assistant Secretary for Site Restoration, EM-10, HQ

We appreciate the opportunity to review and comment on the subject Office of Inspector General (OIG) draft report. We reviewed the information in the draft with respect to the facts presented, conclusions reached, and appropriateness of the recommendations. A discussion of the report's recommendations follows.

**Recommendation**

To maximize savings through energy incentives, we recommend that the Managers, Argonne Site Office and the Richland Operations Office (RL), take steps to ensure that their sites are focused and follow through on all available energy incentive programs.

**Management Response:** RL concurs. RL agrees with the recommendation to take steps to ensure that the site is focused on all available energy incentive programs and to follow through on the efforts to obtain the available energy incentive funds in order to maximize savings through energy incentives.

Since the time of the audit, RL has worked closely with its mission support contractor to investigate ways to better facilitate the energy efficiency incentive process for the Hanford Site and to establish improved communication venues for distribution of energy efficiency incentive information to the Hanford Site contractors.

The current energy efficiency incentive program and the associated available funding offered by the Bonneville Power Administration (BPA) is implemented on a rolling two year period; e.g., Fiscal Year (FY) 2014-2015, FY 2016-2017 to coincide with BPA's power rate periods.

To coincide with the start of the next program period on October 1, 2015, RL will work with its site contractors and BPA to develop a plan to improve the site participation in the available utility incentive program including emphasizing the importance of the energy efficiency incentive programs, institutionalizing the process to pursue and follow through to obtain energy efficiency incentive funding, and ensuring that the focus includes new construction as well as ongoing maintenance activities. This action is planned to be complete by June 30, 2016.

The related Monetary Impact Report has been reviewed and a signed copy is attached.

If you have any question, please contact me, or your staff may contact Gregory A. Jones, Assistant Manager for Business and Financial Operations, on (509) 372-8977.

Stacy Charboneau

Stacy Charboneau
Manager

cc w/attach:
D. C. Chapman-Turner, MA-1.1
T. C. Harms, EM-63
S. I. Hersh, MA-1.1
W. M. Levitan, EM-10
M. L. Lewis, CF-50
L. J. Thomas, EM-63
M. Zhu, EM-11

**Department of Energy**
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

FEB 18 2015

MEMORANDUM FOR JACK D. ROUCH, DIRECTOR
CENTRAL AUDIT DIVISION
OFFICE OF INSPECTOR GENERAL

FROM: JOANNA M. LIVENGOOD
MANAGER
ARGONNE SITE OFFICE

Joanna M Livengood

SUBJECT: RESPONSE TO AUDIT REPORT NO. IG-324, ENTITLED, "THE DEPARTMENT OF ENERGY'S PARTICIPATION IN ENERGY INCENTIVE PROGRAMS" (A13HQ047)

Thank you for the opportunity to respond to the subject report. Argonne National Laboratory (Argonne) recognizes and the Argonne Site Office (ASO) concurs in the value of pursuing energy savings incentives, where available.

Discussion of the report's recommendation follows:

Recommendation:
To maximize savings through energy incentives, we recommend that the Managers, Argonne Site Office and Richland Operations Office, take steps to ensure that their sites are focused and follow through on all available energy incentive programs.

Management Response:
Argonne has taken action to improve and formalize their processes to ensure/maximize receipt of potential available energy incentives since the on-site audit in 2013. In 2014, Argonne developed and implemented a Standard Operating Procedure (SOP) as part of its Laboratory Management System to ensure that available energy incentives are identified and pursued in the earliest stages of project development. ASO and Argonne will continue to maintain information on incentives applied for and received.

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

If you want to discuss this report or your comments with a member of the Office of Inspector General staff, please contact our office at (202) 253-2162.