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PBS's \$1.7 Billion Energy Savings Performance Contracts Are Not Achieving Energy and Cost Savings Due to Inadequate Oversight

Report Number A180017/P/5/R20004
March 27, 2020

Executive Summary

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Why We Performed This Audit

This audit is a follow-on to our September 2016 and August 2017 audits that covered the award phase of the GSA Public Buildings Service's (PBS's) Energy Savings Performance Contracts (ESPCs). This audit focuses on the administration phase of ESPCs. Our objectives were to determine whether PBS: (1) has effective procedures in place to verify that the energy savings calculated by the energy service company (ESCO) are accurate and (2) administers the ESPC projects in accordance with the applicable regulations and guidance.

What We Found

PBS is not achieving the expected energy and cost savings on multiple ESPC projects due to ineffective and inconsistent oversight of ESPC compliance with the requirements of the Federal Energy Management Program and the Federal Acquisition Regulation. As a result, the savings needed to fund payments for the ESPCs are not being realized and the projects are increasing PBS's costs rather than being budget-neutral.

We found that PBS did not realize savings to fully fund payments for two of the seven ESPC projects we examined and that it did not have evidence that other projects were meeting their operations and maintenance savings. In addition, we found that PBS did not provide effective oversight of the accuracy of ESCO-claimed energy savings. On multiple projects, PBS did not witness the ESCO energy measurement and verification activities or review ESCO measurement and verification reports, but instead relied on the contractor to self-monitor and self-report whether it achieved the savings. We also identified deficiencies in PBS's ESPC contract file administration. PBS is not ensuring the completeness of contract files and is not completing contractor performance assessments in accordance with the Federal Acquisition Regulation. Finally, PBS does not oversee the administration of ESPC projects after award.

What We Recommend

Based on our findings, we made several recommendations to improve PBS's oversight of the administration of ESPC task orders. The recommendations include: improving oversight of ESPC savings evaluation; identifying, and, if possible, recovering savings shortfalls; renegotiating operations and maintenance contracts; ensuring witnessing and proper review of measurement and verification reports; and verifying that current and future ESPCs have all required contract documents. A complete list of our recommendations is included in the ***Conclusion*** section of this report.

In his response to our draft report, the PBS Commissioner agreed with our recommendations. PBS's response can be found in its entirety in ***Appendix C***.

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Introduction

We performed an audit of the GSA Public Buildings Service's (PBS's) administration of its Energy Savings Performance Contracts (ESPCs).

Purpose

We performed this audit as a follow-on to our September 2016 and August 2017 audits that covered the award phase of ESPCs. This audit focuses on the administration phase of ESPCs. ESPCs, according to PBS guidance, are the principal way for PBS to fund building renovation projects with an energy component. As of December 2019, GSA has awarded over \$2.3 billion of investments under ESPCs since December 2010.

Objectives

The objectives of this audit were to determine whether PBS: (1) has effective procedures in place to verify that the energy savings calculated by the energy service company (ESCO) are accurate and (2) administers the ESPC projects in accordance with the applicable regulations and guidance.

See **Appendix A** – Scope and Methodology for additional details.

Background

The federal government has introduced several environmental initiatives to establish federal energy requirements and sustainability goals. These initiatives have led to widespread reductions in energy use across the government; however, these energy reductions came with funding challenges. In 1986, Congress provided agencies with an alternative mechanism for obtaining energy efficiency improvements when it authorized agencies to use ESPCs. An ESPC is a type of performance contract that privately finances the improvements to federal facilities from the financial benefits derived from contract performance. In performance-based contracting, the agency specifies the desired result and allows the contractor to determine how to achieve it.

Under an ESPC, a government agency enters into a long-term contract with an ESCO that arranges private financing and installs energy-efficiency improvements in federally owned buildings. The agency then makes payments to the ESCO until the improvements have been paid off. The agency's payments are based on the energy cost savings the ESPC achieves each year. The annual payment schedule for the ESPC cannot exceed the value of the annual utility savings created by the installed energy-efficiency improvements.

ESPCs are designed to shift performance risk associated with energy-efficiency improvements from the government to the ESCO. The performance risk is transferred by requiring verification that the energy-efficiency improvements achieve the expected financial savings before the agency makes payments to the ESCO. If the project does not achieve the expected savings, then

the agency shall suspend payments for the unrealized savings until the conditions are corrected.

Guidance and Regulations

ESPCs began in 1986 with amendments to the National Energy Conservation Policy Act of 1978.¹ The amendments provided, in part, that “[t]he head of a Federal agency may enter into contracts ... solely for the purpose of achieving energy savings and benefits ancillary to that purpose” for a term not to exceed 25 years. The Energy Policy Act of 1992 further amended the National Energy Conservation Policy Act of 1978, extending agencies’ authority to use ESPCs for performing energy-efficiency improvements and directing the Department of Energy (DOE) to develop ESPC regulations.² As a result, in 1995, DOE issued implementing regulations in Title 10 of the Code of Federal Regulations Part 436, *Federal Energy Management and Planning Programs*.

Energy reduction goals for federal buildings have evolved over time from 10 percent per square foot in 1988 to 35 percent in 2010. For example, Executive Order 13123, *Greening the Government Through Efficient Energy Management*, issued June 3, 1999, required an allocation of funds to install energy-efficiency improvements to reduce energy consumption by 35 percent in 2010 relative to 1985 levels. To help achieve energy reduction, this Executive Order required agencies to maximize their use of alternative financing contracting vehicles, including ESPCs.

To help simplify and shorten the ESPC award process, DOE’s Federal Energy Management Program (FEMP), as well as the Department of Defense, negotiated “super” ESPCs with pre-qualified energy companies. These super ESPCs are umbrella contracts awarded nationwide that comply with Federal Acquisition Regulation (FAR) competition requirements. Agencies, including GSA, have the option to use the super ESPCs to take advantage of pre-negotiated terms and conditions. Agencies can award task orders more quickly using the super ESPCs because the competitive selection process has already been completed and key terms of the contract have been negotiated. An agency may develop its own ESPC; however, doing so can be a difficult process. Consequently, most agencies award task orders through either DOE or Department of Defense super ESPCs.

Government use of ESPCs increased after issuance in December 2011 of the Presidential Memorandum entitled *Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings*. This memorandum mandated implementation of \$2 billion of ESPCs government-wide by December 2, 2013. GSA initially responded by committing \$175 million to this mandate. This commitment prompted GSA’s Office of Federal High-Performance Green Buildings to launch the National Deep Energy Retrofit Program in March 2012. According to GSA’s *360° Perspective on Federal Deep Energy Retrofits*, dated August 2014, the goal of this program was to demonstrate best practices to achieve significant energy savings through self-

¹ 42 USC 8287.

² Public Law No. 102-486.

financing projects, such as ESPCs, within the federally accepted financing term of 25 years or less. GSA’s objectives were to use innovative, renewable energy technologies to move buildings toward “net zero energy consumption.”³

From December 2010 through April 2014, GSA awarded 15 ESPC projects with an overall value of approximately \$1.9 billion. These projects, which served as the basis of our audit, were divided into two categories—National Deep Energy Retrofit and Non-National Deep Energy Retrofit (see *Figure 1*).

Figure 1 – ESPC Projects by Category: December 2010 through April 2014

ESPC Category	Number of Projects	Total Funding (in millions)
National Deep Energy Retrofit	10	\$ 290
Non-National Deep Energy Retrofit	5	1,609
Total	15	\$ 1,899

From April 2014 through December 2019, GSA awarded eight additional ESPC projects, totaling \$471 million.

Energy Savings

FEMP defines energy savings as a reduction in the cost of energy, water, and wastewater treatment relative to a pre-project baseline cost. These savings are generally recurring savings that occur annually. Savings are calculated as the difference between the baseline and the energy cost after the ESPC’s energy-efficiency improvements are in place.

Operations and maintenance savings. Operations and maintenance (O&M) savings is defined as a decrease in expenses (other than energy cost savings) related to energy- and water-consuming equipment. O&M savings should follow the DOE guidance, *How to Determine and Verify Operating and Maintenance (O&M) Savings in Federal Energy Savings Performance Contracts*.

According to the DOE guidance, there must be a real reduction in O&M expenses after the ESPC is implemented to show the savings were achieved. Based on this guidance and our previous ESPC audit report, which found overstated and unachieved O&M savings in excess of \$1 million, PBS issued an internal policy with the subject “Operational Guidance and Instructions Outlining Roles, Responsibilities, Administration and Reporting Requirements for Energy Savings Performance Contract[s] (ESPCs).” This policy discussed a number of issues related to ESPCs, including O&M savings. In particular, the policy provided that, for ESPCs that depend on O&M savings to achieve the total energy savings, the regional O&M contracting officer is required to renegotiate the O&M contract. Based on these negotiations, the contracting officer is then

³ Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (October 2009), defines net zero energy consumption as a site producing at least as much renewable energy as it consumes over a year.

required to issue a modification that reduces the total contract value by the anticipated amount of O&M savings. This modification should be exercised after the ESPC is awarded and approved by GSA's ESPC National Program Management Office. The O&M savings must be negotiated and agreed to by the O&M contractor before being included in the ESPC total savings calculation.

Measurement and Verification

Measurement and verification (M&V) is the process used to determine energy, water, and related cost savings. M&V is used to ensure that the installed equipment or systems are operational and have the potential to generate savings. Verification methods may include inspections, surveys, and short-term metering. The contractor and agency agree to perform the required M&V activities using the following key documents:

M&V Plan: The agency and the contractor develop the projected annual energy and financial savings and create a plan that will verify the projected savings. This is called an M&V plan. The plan specifies the M&V option for each energy conservation measure (ECM) in the project, where and how cost savings are going to occur, and how they are to be calculated and verified. M&V options and methods proposed for each ECM shall comply with *DOE/FEMP M&V Guidelines: Measurement and Verification for Federal Energy Projects*.

Commissioning Report: The commissioning report, prepared by the ESCO, provides the results of the inspections and performance tests implemented and verifies that the equipment or systems were installed and are operating as intended.

Post-Installation Report: After the ECMs are installed, the ESCO conducts post-installation verification activities defined in the M&V plan and presents this information in a post-installation report. Another purpose of the post-installation report is to verify, before the performance period starts, that the ECMs are capable of generating the promised savings.

M&V Report: During the performance period, the ESCO submits an annual report showing the measurement and savings calculations and O&M activities and identifies any items that may require additional follow-up. The report is not required to show that the project met the savings for each ECM but that the project achieved the overall cost savings guarantee. The savings figures are used to determine if the guaranteed cost savings were met and if not, whether payments to the ESCO must be adjusted.

The contract or the task order should also provide guidance on using the annual report to reconcile payments made to the ESCO for previous billing periods. The estimates in the report may also be used as the basis for subsequent payments. If previous payments were based on expected savings, then the estimates should be adjusted to reflect verified savings.

Government witnessing and review of M&V is the primary process for the agency to determine if the cost savings guaranteed in the contract are delivered. It is critical for the agency to

witness measurements and inspections and performance tests, and review reports, to ensure that the reports contain accurate results. This process should provide the agency with enough evidence to make payments on the guaranteed cost savings.

FEMP provides specific guidance on witnessing and reviewing the post-installation and M&V reports. The guidance includes procedures for preparing, coordinating, and witnessing ESCO M&V activities including inspections and measurements conducted by the ESCO. The post-installation report and the annual M&V report must be reviewed and accepted in writing by the agency. Review and acceptance of the annual M&V report constitutes the basis to determine the amount of contractor payment.

Savings Shortfalls and Impact

The DOE super ESPC provides guidance on what should happen if there is a shortfall in ESPC guaranteed cost savings. Once the M&V documents are reviewed, they are compared to the final values for the guaranteed cost savings on the task order. The ESCO is paid from the savings it guarantees the government. During the performance period, lasting from after government acceptance of the project until the end of the contract term, the cost savings must exceed the payments to the ESCO each year. If actual savings are lower than the guaranteed cost savings, the agency should adjust the payment schedule to recover overpayments from the previous year in order to pay back the shortfall over the next year.

The National Energy Conservation Policy Act of 1978 includes several specific requirements for federal agencies entering into ESPCs. It allows federal agencies to implement ECMs if the overall utility costs to the agency do not increase as a result of the contract and if any government-incurred debt is secured by a guarantee of energy savings from the contractor.⁴ The Act also mandates that the ESPC include an annual audit of energy savings using M&V techniques to confirm the energy savings guarantee is being met.

Additional Requirements

FAR 42.15, *Contractor Performance Information*, requires federal agencies to annually evaluate contractor actions and report their performance using the Contractor Performance Assessment Reporting System (CPARS). In addition, DOE FEMP established services to provide technical guidance to agencies in administering ESPCs. FEMP recommends that agencies perform annual performance reviews of the ESCO throughout the life of the contract and enter this information into CPARS.

ESPC task orders awarded under the DOE's super ESPC contain additional terms and conditions that may add or change ESPC requirements. One such requirement is for the ESCO to prepare an ECM Quality Control Plan and submit it to the agency for review and acceptance. The plan is a critical component in ensuring compliance with the task order's performance requirements.

In addition, the following FEMP guidance is applicable to ESPCs:

⁴ 42 USC 8287 (a)(2)(B) and (a)(2)(C).

- *Practical Guide to Savings and Payments in FEMP ESPC Task Orders (2009)*
- *Guide to Government Witnessing and Review of Measurement and Verification Activities (2014)*
- *Reviewing Post-Installation and Annual Reports for Federal ESPC Projects (2007)*
- *Guide to Government Witnessing and Review of Post-Installation and Annual M&V Activities (2007)*

Prior Audit Reports

In September 2016, we issued an audit report, *PBS's Energy Savings Performance Contract Awards May Not Meet Savings Goals*.⁵ It covered 14 ESPCs awarded from September 2013 through April 2014. We found that PBS did not exercise adequate oversight in awarding ESPCs. PBS did not comply with guidelines for government witnessing; did not achieve O&M-related energy savings on one project; lacked approval of an M&V plan before award; and did not comply with fair and reasonable pricing regulations or guidance.

We made several recommendations to PBS designed to address the deficiencies identified in our report. In response, PBS provided operational guidance and instructions outlining the roles and responsibilities of, and administration and reporting requirements for, ESCOs and PBS. PBS stated that Agency personnel should review and follow the recommendations for witnessing outlined in DOE's witnessing guidance. In addition, PBS agreed that ESPC O&M savings must be negotiated and agreed to by the O&M contractor before being included in the ESPC savings. PBS officials stated that O&M contracts should include a modification reducing O&M expenses. This modification should be exercised after the ESPC is awarded.

In August 2017, we issued a follow-on audit report, related to the *White Oak, MD ESPC, PBS National Capital Region's \$1.2 Billion Energy Savings Performance Contract for White Oak was Not Awarded or Modified in Accordance with Regulations and Policy*.⁶ We found that PBS's National Capital Region did not comply with applicable laws, regulations, and guidance when awarding and administering this ESPC task order. PBS's National Capital Region violated the Competition in Contracting Act of 1984 and the competition requirements set forth in the FAR by making a cardinal change to the contract that substantially increased the contract's scope of work for operations and maintenance. We also found that PBS's National Capital Region did not award and administer the task order in compliance with contract requirements, acquisition regulations, and internal policy. Our recommendations included several measures to strengthen and improve controls over the task order award for this and future ESPCs. PBS has not agreed to implement many of our recommendations from the White Oak audit report.

⁵ Report Number A150009/P/5/R16003, September 27, 2016.

⁶ Report Number A150009/P/5/R17006, August 24, 2017.

Results

PBS is not achieving the expected energy and cost savings on multiple ESPC projects due to ineffective and inconsistent oversight of ESPC compliance with FEMP and FAR requirements. As a result, the savings needed to fund payments for the ESPCs are not being realized and the projects are increasing PBS's costs.

We examined 7 of 15 ESPC task orders awarded between December 2010 and April 2014, which were valued at over \$1.7 billion. For two of these ESPC task orders, we found that PBS did not achieve the level of savings necessary to fully fund payments. We also found that PBS did not have evidence that four ESPC projects were meeting their O&M savings goals. In addition, we found that PBS did not provide effective oversight of the accuracy of ESCO-claimed energy savings. On multiple projects, PBS did not witness the ESCO energy M&V activities or review ESCO M&V reports, but instead relied on the contractor to self-monitor and self-report whether it achieved the savings.

We also identified deficiencies in PBS's ESPC file administration. PBS is not ensuring the completeness of contract files or completing contractor performance assessments in accordance with the FAR. Finally, PBS does not adequately oversee the administration of ESPC projects after award.

Finding 1 – PBS did not realize savings to fully fund payments on two ESPC projects and risks paying for unsupported and overstated O&M savings on other projects due to inadequate oversight.

One of the primary benefits of an ESPC is that it should be budget-neutral. In other words, PBS can use the guaranteed cost savings of the ESPC to fund the energy upgrades and building improvements without increasing its costs. However, PBS is responsible for ensuring that the guaranteed energy savings are realized so that the savings can be used to fund the payments to the ESCO.⁷ In cases where there is a savings shortfall, PBS is required to deduct the savings shortfall from the next year's payment to the ESCO.⁸

We found that PBS could not verify the guaranteed energy cost savings on multiple ESPC projects but was still making full payments to the ESCOs. Of the seven projects we examined, two did not achieve the guaranteed cost savings and four had unsupported or overstated O&M savings.

Guaranteed Energy Savings Shortfalls

FEMP's guidance states that "[g]uaranteed cost savings to the federal customer must exceed payments to the contractor in every year of the task order term." In other words, the ESCO

⁷ 42 USC 8287(a)(2)(B).

⁸ DOE, Indefinite Delivery Indefinite Quantity, Multiple Award, Energy Savings Performance Contract, December 17, 2008, section G.5.1.

must demonstrate every year that the ESPC project has achieved the guaranteed cost savings. Neither the ESCO nor GSA are allowed to use the possibility of excess savings in a subsequent or prior year to cover a savings shortfall. In addition, the FEMP guidance requires that PBS (or a qualified third party available through FEMP) review the annual M&V report to ensure the savings computation is accurate. In the event of a savings shortfall, it is PBS's responsibility to dispute the ESCO's calculations, determine a cause, and place responsibility for the shortfall. FEMP guidelines require that the agency should deduct the savings shortfall from the next year's payment to the ESCO.

We found that two of the seven projects in our sample did not realize sufficient savings to fully fund payments. The *Los Angeles, CA* and the *Silver Spring/New Carrollton, MD* ESPCs had total savings shortfalls of over \$645,000 over a 3-year period. However, as described below, PBS failed to adjust payments for the shortfall for these two projects and paid the ESCO in full although the guaranteed savings were not achieved.

- According to GSA's energy usage database, the *Los Angeles, CA* ESPC had savings shortfalls of over \$539,000 during a 3-year period. However, the ESCO's M&V reports for the same time period showed that the project met the savings guarantee and had no shortfalls. Based on this discrepancy, PBS should have withheld future payments to the ESCO until it researched the discrepancy and determined the correct payment amounts. Instead, PBS paid the ESCO in full based solely on the ESCO's M&V report.

PBS officials could not explain why they failed to research the discrepancy before paying the ESCO in full but stated that the present year savings were on track to meet the savings guarantee. They also told us that the project was expected to generate excess savings in the present year which would offset the evident shortfalls from the prior years. However, as noted above, GSA cannot use excess savings in one year to cover a savings shortfall in another year.

- Pursuant to the *Silver Spring/New Carrollton, MD* ESPC, the ESCO is required to calculate savings based on utility bills. The ESCO guaranteed a minimum savings of \$2,701,713 in utility costs to GSA. However, the actual savings was only \$2,595,127. PBS authorized payment of the guaranteed savings without comparing the utility bills to the ESCO's calculations. The difference between the guaranteed savings and the savings calculated from actual utility bills is a shortfall of \$106,586 (\$2,701,713 - \$2,595,127). GSA should have withheld this amount from the Year 1 payment to cover the shortfall. Because it did not, GSA paid for unrealized savings.

Unsupported and Overstated O&M Savings

O&M savings that result from an ESPC can be included as part of the overall savings computation to fund the project.⁹ FEMP guidance recommends that agencies carefully

⁹ 42 USC 8259(4).

document the O&M savings. However, of the seven projects we examined, we found four that had unsupported and overstated O&M savings, including the two examples described below:

- For the *Silver Spring/New Carrollton, MD* project (discussed above), the ESCO guaranteed O&M savings of over \$2 million for the 22-year term of the ESPC. However, 3 years into the contract, PBS cannot demonstrate it has achieved any ESPC-related O&M savings. As discussed in the *Background* section of this report, for ESPCs that depend upon O&M savings to achieve the total energy savings, DOE guidance requires that agencies show a real reduction in O&M expenses after ESPC implementation. Accordingly, GSA should have modified the O&M contract to reflect such a reduction.

We examined the O&M contract for the *Silver Spring/New Carrollton, MD* project and did not find any modification reflecting decreased O&M expenses. As a result, PBS could not verify O&M savings for the first 3 years of the ESPC. To remedy this, PBS should renegotiate the contract to achieve future O&M savings and attempt to recover lost savings for the first 3 years. If the contract is not renegotiated, PBS may pay in excess of \$2 million to the ESCO over the remainder of the 22-year contract term, in addition to the first 3 years of lost savings, although the savings needed to fund the payments were not achieved.

Moreover, PBS could not produce the base O&M contract. Without the base O&M contract, PBS does not know the original scope of work of the O&M contractor compared to the ESCO's responsibilities, cannot validate the ESPC's O&M savings, and will have challenges renegotiating the O&M contract to obtain the projected savings.

In addition, the ESCO overstated the O&M savings for part of the project. FEMP guidance states that the original budgeted amount must be deducted from the estimated savings to compute the projected savings. The ESCO estimated annual savings of \$64,758 for light bulb and ballast replacement; however, this computation did not take into account the original budget cost of approximately \$32,000. Therefore, PBS risks overpaying the ESCO by about \$704,000 over the 22-year project term (\$32,000 original budget x 22 years). Without verification that the savings figure is accurate, PBS also runs the risk of paying for unrealized savings once the O&M contract is renegotiated.

- In another project (*Los Angeles, CA*), PBS planned to achieve annual O&M savings of over \$69,000 by having the ESCO install hand dryers in the bathrooms, thereby reducing paper towel usage. The ESCO installed the hand dryers, giving building occupants an option between paper towels and hand dryers. However, PBS did not perform an analysis to determine if this measure resulted in a reduction in paper towel usage. Therefore, PBS has no evidence that the installation of hand dryers resulted in actual O&M savings and could be paying the ESCO for unrealized savings.

In summary, although PBS is required to ensure that payments to the ESCO come from the energy savings, it is unable to do so because of inadequate oversight and ineffective project

planning.¹⁰ As a result, these projects are not budget-neutral and increase PBS's costs instead of providing the savings needed to fund the projects. We found that PBS paid over \$645,000 for two projects that did not achieve the guaranteed cost savings needed to fund the payments and that PBS has unsupported and overstated O&M savings on four projects.

Finding 2 – PBS did not provide effective oversight to verify the accuracy of ESCO savings.

PBS has limited evidence that ESCOs delivered guaranteed cost savings as required under the ESPC due to inadequate oversight. We found that PBS did not witness ESCO measurements to determine whether the contractor took accurate measurements. In addition, PBS either failed to or did not effectively review M&V reports, relying instead on the contractor to perform self-monitoring. As a result, PBS risks performance issues and overpayments with the installed ECMs.

Inadequate Witnessing

The FEMP *Guide to Government Witnessing and Review of Measurement and Verification Activities (2014)* requires that ESCOs provide reports on the ESPC progress and performance. This guidance also requires agencies to witness and confirm measurements, both after installation of ECMs and as part of the annual M&V process.

We found that PBS did not witness the ESCOs' measurements as required for six projects. For example, for the largest project in our sample (*White Oak, MD*), PBS did not witness the post-installation report and only partially witnessed the annual M&V reports. Another project (*Silver Spring/New Carrollton, MD*) lacked some witnessing for commissioning, post-installation, and annual M&V reports. For a third project (*St. Louis, MO*), PBS only witnessed the post-installation report for 1 out of 12 ECMs, and also failed to witness the project's first annual M&V report. Without effective witnessing, PBS could be paying the ESCO for savings that were not achieved and equipment that does not function properly.

We reviewed contract files and discussed the issue of inadequate witnessing and documentation with PBS officials. One official stated in the Year 1 M&V report for the *St. Louis, MO* ESPC that he was surprised by the lack of witnessing because PBS has emphasized the need for witnessing over the last 2 years. Another PBS official on the Caribbean Area ESPC projects (*San Juan, PR/St. Thomas, VI* and *St. Croix, VI*) stated that the project team relied on the contractor's measurements included in the M&V report appendixes, which the ESCO prepared. Therefore, there was no independent PBS review of the ESCO's savings figures.

Lack of or Ineffective PBS Review of M&V Reports

As previously stated, FEMP guidance (*Guide to Government Witnessing and Review of Measurement and Verification Activities [2014]*) requires ESCOs to provide M&V reports assuring that ECMs are functioning properly and providing the energy savings as defined. This guidance also requires that PBS or a project facilitator appointed by DOE review these reports

¹⁰ 42 USC 8287(a)(2)(B).

to ensure that they contain accurate results. However, we found that PBS either failed to or did not effectively review certain M&V reports for three projects. For example:

- PBS did not prepare a written review of the Year 3 M&V report for the *White Oak, MD* ESPC, as required by FEMP guidance. Thus, we were unable to determine whether PBS reviewed the M&V report. Additionally, the ESCO has not submitted, and PBS has not actively sought, the required final commissioning report for this project more than 4 years after project acceptance. Total payments to the ESCO will exceed \$1.15 billion for this project's 20-year contract term.
- Although there is documentation that PBS and the DOE Project Facilitator reviewed the Year 1 M&V report for the *St. Louis, MO* ESPC, PBS did not address the problems the review discovered. PBS's review of the M&V report found that the ESCO did not address deficiencies included in previous reports and did not perform M&V activities on some ECMs. Notwithstanding these problems, when the ESCO concluded that it had achieved the guaranteed cost savings, PBS paid the ESCO in full. PBS also claimed that it had reviewed the Year 3 M&V report for this project, but we found no evidence of any review.

When we asked about missing or unreviewed reports, PBS officials told us that they found ESPCs especially complex and difficult to administer. One project team was "still learning what was required to conduct M&V" during the beginning of the performance period. Another official stated that he did not understand why, in his region, there was one contracting officer's representative involved in the construction phase but another one in the performance period. The complexity of ESPCs creates a steep learning curve, increasing the importance of training and institutional knowledge. Lack of training on M&V and staff continuity issues contribute to the inadequate oversight by PBS.

Finding 3 – PBS did not adequately oversee ESPC file administration.

PBS's contract administration of ESPCs was inadequate. We found that PBS did not maintain complete contract files and complete contractor performance assessments as required by the FAR. As a result, PBS is not providing effective oversight of these ESPCs, which could jeopardize the government's investment and waste taxpayer dollars.

Incomplete Contract Files

FAR 4.802, *Government Contract Files*, prescribes the general requirements for contract files in the federal government. Among other things, FAR 4.802 establishes that contract files should document the basis for the contract and any subsequent actions taken by the contracting office. However, as described below, we found that the contract files for four of the seven ESPCs we reviewed did not include the following key contract documents:

- *Final Contract Terms and Conditions*: The final task order terms and conditions were incomplete and inaccurate for two projects. Among other things, these task orders

included the wrong task order numbers and listed buildings that were no longer in the project scope. A complete and accurate version of this document is integral to ensure that PBS can enforce these terms and conditions effectively.

- *ECM Quality Control Inspection Plans*: Two projects had inadequate ECM Quality Control Inspection Plans. These plans are required to ensure that PBS knows how the ESCO ensured quality control during ECM installation as well as the qualifications of the ESCO employees who were responsible for quality control. These plans also describe how the ESCO tracked quality control deliverables, including inspection schedules and testing plans, required by the inspection plan during the construction process, so that PBS can assess whether the equipment installed conforms to task order terms and conditions.

Failure to Complete Contractor Performance Assessment Reports

FAR 42.15, *Contractor Performance Information*, requires completion of annual contractor assessment reports. Incomplete contractor assessments make it difficult for other federal agencies to evaluate the suitability of ESCOs for future projects. We found that PBS did not complete some or all of the annual Contractor Performance Assessment Reporting System (CPARS) evaluations for the following two projects in our sample:

- *San Juan, PR/St. Thomas, VI*: PBS awarded the ESPC in February 2014; however, we found no evidence that PBS completed CPARS evaluations after February 2015. We asked PBS officials about this but did not receive any additional information.
- *Silver Spring/New Carrollton, MD*: PBS awarded this ESPC in December 2013; however, PBS did not complete CPARS evaluations for this ESPC at any point during the contract period. The contracting officer told us that she submitted a request for access to CPARS database administrators. However, she did not provide any evidence that she actually did so and we were unable to find any CPARS evaluations in the database for this contract. Notwithstanding the contracting officer's assertion that she needed to request access to the CPARS database to complete her evaluations for this contract, we noted that she had previously accessed and submitted information in the database for another ESPC project.

Effective contract administration is critical to holding contractors accountable for their performance. However, we found that the ESPC files lack key documents necessary to provide proper contract oversight and that PBS acquisition personnel did not complete required reports on contractor performance. Accordingly, PBS should take steps to improve ESPC oversight to protect its investment in these projects and taxpayer dollars.

Finding 4 – PBS does not adequately oversee the administration of ESPC projects.

PBS does not adequately oversee the administration of ESPC projects. Although it established the ESPC National Program Management Office (PMO), PBS did not give it the responsibility for monitoring and overseeing the regional administration of the ESPC projects.

The PMO was established in 2012 to “standardize and streamline the ESPC contracting process.” The PMO also coordinates with regions after award, by among other things, requiring that the regions provide executed copies of modifications and annual M&V reports and take additional training related to quality assurance. However, the PMO was not assigned the responsibility to oversee the regional administration of the ESPCs. Instead, PBS has historically placed a significant portion of the responsibilities for ESPC projects in the regions.

For example, in an October 2014 memo on ESPCs, the Acting Assistant Commissioner of Facilities Management stated that:

Regions, as part of their project management responsibilities, will have overall ongoing responsibility for overseeing M & V and for addressing any M & V-related issues that may arise from changes at the facility.... The PMO, as part of its ESPC program management role, will provide additional oversight by reviewing M&V reports and determining that all agreed processes are being followed and savings achieved prior to regions processing the next payment.

Furthermore, in January 2018, the Acting Assistant Commissioner of Facilities Management issued an instructional memorandum that placed the responsibility for annual M&V and witnessing primarily on the regions.¹¹

As noted in previous findings, there are significant gaps in regional project oversight in the performance period. The regional project teams are not effectively witnessing projects, reviewing reports and ECM Quality Control Inspection Plans, and verifying savings. Also, only one ESPC project in our sample contained evidence of involvement by the PMO in the annual M&V review and this evidence was only a meeting invitation to discuss the M&V report.

ESPCs are unlike typical appropriated construction projects. The long-term nature of ESPCs, coupled with the requirement for annual M&V reports and complex savings verification methodologies, creates a need for continuous monitoring. While DOE offers project facilitators who can provide advice and some help for ESPC projects, a high level of internal expertise is required for PBS to administer ESPCs properly. However, some regions do not have the required level of expertise and may need time to develop it.

Therefore, PBS should ensure that the PMO is more involved in monitoring ESPC projects after contract award. Projects with complex ECMs and savings methodologies would especially benefit from such involvement as these projects are more likely to require additional technical expertise. PBS should also use the PMO to ensure that the regions perform and document critical oversight tasks to ensure that the ESCOs are generating the energy and cost savings required under the contract and to protect the government’s investments in ESPCs going forward.

¹¹ *Operational Guidance and Instructions Outlining Roles, Responsibilities, Administration and Reporting Requirements for Energy Savings Performance Contract[s] (ESPCs)* (January 2018).

Furthermore, PBS should consider whether the PMO's current staffing level is sufficient to fulfill these additional oversight responsibilities. PBS officials informed us that the PMO has just two dedicated staff assigned to oversee PBS's nationwide portfolio of 23 ESPC contracts valued at over \$2.3 billion. However, given the unique nature and complexities of these contracts, the PMO's current staffing level may not be sufficient to provide adequate oversight of ESPCs.

Conclusion

PBS is not achieving the energy and cost savings on multiple ESPC projects due to ineffective and inconsistent oversight of ESPC compliance with FEMP and FAR requirements. As a result, the savings needed to fund payments for the ESPCs are not being realized and the projects are increasing PBS's costs rather than being budget-neutral.

We found that PBS did not realize savings to fully fund payments for two of the seven ESPC projects we examined and did not have evidence that the other projects are meeting their O&M savings goals. In addition, we found that PBS did not provide effective oversight of the accuracy of ESCO-claimed energy savings. On multiple projects, PBS did not witness the ESCO energy M&V activities or review ESCO M&V reports, but instead relied on the contractor to self-monitor and self-report whether it achieved the savings.

We also identified deficiencies in PBS's ESPC file documentation. PBS is not ensuring the completeness of contract files or completing contractor performance assessments in accordance with the FAR. Finally, PBS does not adequately oversee the administration of ESPC projects after award.

For PBS to improve administration of the ESPC program, PBS should strengthen its oversight of ESPC savings evaluation, identify and recover savings shortfalls, renegotiate O&M contracts as required, and strengthen controls over witnessing and review of ESPC M&V reports. Additionally, PBS should verify that current and future ESPCs have all required contract documents and that CPARS evaluations are completed as required. Finally, the PMO should increase its monitoring of ESPCs after award.

Recommendations

We recommend that the PBS Commissioner:

1. Improve oversight of ESPC savings evaluation; this may include regional or ESPC PMO reviews, reconciliations, and approvals to authorize payments.
2. Identify and, if possible, recover savings shortfalls.
3. Renegotiate O&M contracts to achieve the estimated savings on existing ESPCs with O&M savings and train PBS officials on current policy.
4. Ensure witnessing and proper review of required ESPC reports by:
 - a. Developing internal guidance on M&V review procedures;
 - b. Implementing GSA training to standardize witnessing of M&V nationwide; and
 - c. Requiring periodic review of ESPC contract files by the ESPC PMO.
5. For all current and future ESPCs awarded under the DOE super ESPC, ensure the contract files include the following required key documents:
 - a. Final, signed task order terms and conditions;
 - b. ECM Quality Control Inspection Plans; and
 - c. Complete, final ESPC reports (i.e., commissioning, post-installation, and M&V) submitted in accordance with task order terms and conditions.
6. Ensure that annual CPARS evaluations are completed for all future ESPCs in accordance with the FAR.
7. Increase the ESPC PMO's oversight of the regions' administration of ESPCs through the performance period. This may include: assisting in the evaluation of M&V plans, providing resources to regions for the post-installation and annual M&V site visits, and reviewing annual M&V reports.

GSA Comments

In his response to our draft report, the PBS Commissioner agreed with our recommendations. However, citing the DOE FEMP's *Practical Guide to Savings and Payments*, the Commissioner wrote that "there is no [DOE FEMP] requirement that the agency's internal accounting prove that the guaranteed savings are delivered."

This position ignores the requirements set forth in section 4.5 of the same guide, which provides that:

Only "real savings" may be applied to contractor payments; that is, the savings must be reflected as reduced expenses in the agency's accounts for energy or related O&M. Payments must come from money that the government was either already spending or planning to spend, which can now be redirected because of the energy work that is done under the ESCP. Only real savings, by definition, will make money available for contractor payments.

To comply with this requirement, PBS should verify the accuracy of savings reported by the ESCO as recommended in our audit report.

The Commissioner also wrote that in response to a previous audit report, PBS issued policy in 2018 to address deficiencies in witnessing such as those discussed in *Finding 2* of this report. This policy applies to all current and prospective ESPCs awarded as of January 2018. As noted on page 11, we found that PBS did not witness the ESCOs' measurements as required for six ESCP projects. PBS continued to provide inadequate witnessing after January 2018 for two of these projects—Silver Spring/New Carrolton and White Oak. Therefore, these projects did not meet the requirements of PBS's 2018 policy. We have provided specific detail on these projects to PBS.

PBS's response can be found in its entirety in **Appendix C**.

Audit Team

This audit was managed out of the Great Lakes Region Audit Office and conducted by the individuals listed below:

Adam Gooch	Regional Inspector General for Auditing
Michael Lamonica	Audit Manager
Dana Johnson	Auditor-In-Charge
Sherin Joseph	Auditor
Robert Lange	Auditor
Sherese Shy-Holmes	Auditor

Appendix A – Scope and Methodology

We selected and examined a judgmental sample of 7 of the 15 ESPCs PBS awarded from December 2010 through April 2014. The sample represented approximately 90 percent (\$1.7 billion) of the contract value of the 15 projects. The seven projects were awarded and administered in five GSA regions (Northeast and Caribbean, Great Lakes, Heartland, Pacific Rim, and National Capital).

To accomplish our objectives, we:

- Reviewed the background and history of the ESPC program, including legislation, Executive Orders, and DOE and FEMP guidance;
- Examined contract file documentation, including award, construction, and payment information, as well as ESPC reports (commissioning, post-installation, and annual M&V) and supporting review documentation;
- Performed site visits to buildings in the above five GSA regions. The site visits consisted of walk-throughs to review the ECMs installed, view demonstrations of building automation systems, and conduct interviews with Agency officials (including building managers, project managers, contracting officers, and contracting officer’s representatives);
- Reviewed contract and building information in the following PBS Portal databases: Asset Business Plans, Electronic Acquisitions Systems Integration, and Electronic Contract File;
- Analyzed building energy usage in the Energy Usage Analysis System;
- Reviewed payment information in the Pegasys Payment Search database;
- Analyzed contractor performance information in CPARS;
- Searched the Federal Procurement Data System-Next Generation database for project documentation;
- Conducted interviews with Agency officials in charge of the ESPC PMO and regional officials overseeing ESPCs;
- Reviewed DOE super ESPC task order requirements and the FAR;
- Attended a 3-day training seminar conducted by FEMP on ESPCs, as well as web-based training sponsored by FEMP; and
- Evaluated and analyzed previous audit reports issued by the U.S. Government Accountability Office, as well as the Inspectors General of DOE, GSA, and the Department of Defense.

We conducted the audit between July 2018 and March 2019 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 objectives.

Internal Controls

Our assessment of internal controls was limited to those necessary to address the objectives of the audit.

Appendix B – Projects and Findings

Project Number (Note A)	Project Number	Location	Region (Note B)	Contract Value (Note C)	Finding(s) (Note D)
1	GS-P-02-13-PW-0011	St. Croix, Virgin Islands	2	\$ 12,481,819	2, 3, 4
2	GS-P-05-13-GA-0018	Battle Creek, Michigan	5	13,210,602	2, 4
3	GS-P-06-13-GZ-0005	St. Louis, Missouri	6	15,680,636	2, 3, 4
4	GS-P-11-14-MK-0021	Silver Spring/New Carrollton, Maryland	11	80,533,708	1, 2, 3, 4
5	GS-09P-14-KS-C-0003	Los Angeles, California	9	63,242,042	1, 4
6	GS-P-11-11-MK-0002	White Oak, Maryland	11	1,502,744,108	1, 2, 3, 4
7	GS-P-02-14-PI-0005	San Juan, Puerto Rico/St. Thomas, Virgin Islands	2	<u>21,836,226</u>	1, 2, 3, 4
Totals				\$ 1,709,729,141	

Notes:

- A. All projects except project 5 were awarded under DOE’s super ESPC. Project 5 was awarded as a stand-alone GSA ESPC. Projects 1 through 4 were National Deep Energy Retrofit projects and projects 5 through 7 were Non-National Deep Energy Retrofit projects.
- B. The regions are as follows:
 2—Northeast and Caribbean Region;
 5—Great Lakes Region;
 6—Heartland Region;
 9—Pacific Rim Region; and
 11—National Capital Region.
- C. We determined the contract value (for all except project 6) from the final total of all contractor payments at the end of the contract term. For project 6, we used the current contract value shown on the most recent modification due to the large number of modifications since award.
- D. The findings are as follows:
1. PBS did not realize savings to fully fund payments on two ESPC projects and risks paying for unsupported and overstated O&M savings on other projects due to inadequate oversight.
 2. PBS did not provide effective oversight to verify the accuracy of ESCO savings.
 3. PBS did not adequately oversee ESPC file administration.
 4. PBS does not adequately oversee the administration of ESPC projects.


Appendix C – GSA Comments



Public Buildings Service

March 2, 2020

MEMORANDUM FOR: ADAM GOOCH
REGIONAL INSPECTOR GENERAL FOR AUDITING
GREAT LAKES REGION AUDIT OFFICE (JA-5)

FROM: DANIEL W. MATHEWS 
COMMISSIONER
PUBLIC BUILDINGS SERVICE (P)

SUBJECT: Response to the Office of Inspector General (OIG) Draft
Audit Report, *PBS's \$1.7 Billion Energy Savings
Performance Contracts Are Not Achieving Energy and Cost
Savings Due to Inadequate Oversight (A180017)*

The Public Buildings Service (PBS) appreciates the opportunity to review and comment on the subject draft audit report.

PBS recognizes that because Energy Savings Performance Contracts (ESPCs) are long-term, high value contracts, proper administration of these contracts and task orders is important. As a result, PBS agrees with all seven recommendations set forth in the report.

PBS is required to use the Department of Energy's (DOE) Federal Energy Management Program's (FEMP) guidelines to calculate the savings in ESPCs. DOE FEMP is authorized by statute to establish appropriate procedures and methods for use by federal agencies with regard to the ESPC program. See [42 U.S.C. § 8287\(b\)\(1\)\(A\)](#); 10 C.F.R. § 436.30(a). The DOE FEMP guidance, *The Practical Guide to Savings and Payments*, details how savings are to be determined, and specifically states on page 11:

"Proving Savings — NOT an Accounting Function. There is no requirement that the agency's internal accounting prove that the guaranteed savings are delivered. The legal and contractual responsibility to show that the guarantee has been met is the Energy Service Company's (ESCO), through proving the performance of the implemented project. M&V procedures, not accounting methods, are the appropriate tools for this task..."

While there is no DOE FEMP requirement to prove that guaranteed savings are delivered through an agency's internal accounting, which is the methodology OIG used to calculate savings, PBS recognizes the importance of this issue, and will take it into

Appendix C—GSA Comments (cont.)

consideration as it administers ongoing ESPC contracts, and when it enters into future ESPC contracts.

Additionally, in response to the previous OIG report regarding ESPCs, PBS issued an internal policy entitled, *Operational Guidance and Instructions Outlining Roles, Responsibilities, Administration and Reporting Requirements for Energy Savings Performance Contracts*, on January 28, 2018. This guidance addresses the witnessing process referenced in Finding 2. The draft report states that contracts were reviewed by OIG which were in place prior to the issuance of the aforementioned internal policy. However, dates of when witnessing failed to occur for these contracts were not provided in the draft report. As such, it is difficult to assess the effectiveness of PBS's policy, based on the information contained within the draft report.

Thank you for the opportunity to provide a response to the draft report, and for your consideration of these comments as the final report is developed. PBS has also submitted detailed technical comments on the draft report.

If you have any questions, please contact Andrew Heller, Assistant Commissioner, Office of Facilities Management, at (202) 501-0772.

Appendix D—Report Distribution

GSA Administrator (A)

GSA Deputy Administrator (AD)

Commissioner (P)

Deputy Commissioner (P)

Acting Chief of Staff (PRAC)

PBS Audit Liaison (PT)

Assistant Commissioner, Office of Facilities Management (PM)

Facilities Management Officer (PMA)

ESPC Program Manager (PMA)

Director of Financial Management (BG)

Chief Administrative Services Officer (H)

Audit Management Division (H1EB)

Assistant Inspector General for Auditing (JA)

Director, Audit Planning, Policy, and Operations Staff (JAO)