

Testimony of Strategic Director Leslie Nicholls

U.S. Department of Energy

Before the

Committee on Energy and Commerce

Subcommittee on Energy

U.S. House of Representatives

“Public Private Partnerships for Federal Energy Management”

December 12, 2018

Good morning, Chairman Upton, Ranking Member Rush, and members of the Energy Subcommittee. Thank you for the opportunity to provide testimony on performance contracting. My name is Leslie Nicholls. I am the Strategic Director of the Department of Energy’s (DOE) Federal Energy Management Program (FEMP). In my capacity as Strategic Director, I am responsible for analyzing, evaluating, and making recommendations to Office of Energy Efficiency and Renewable Energy (EERE) leadership on the effectiveness of FEMP’s programs and management operations. I conduct research and analysis for nationally-visible strategic collaboration activities across the Federal government on priority FEMP areas. Today, I will discuss an overview of performance contracting and DOE FEMP’s role, a summary of performance contracting at the Federal level, DOE experiences, and finally FEMP’s role in providing guidance and technical assistance to reduce risks for Federal agencies as they undertake performance contracting.

Overview of Performance Contracting and DOE FEMP’s Role

Performance contracting is a general term that addresses a guaranteed, fixed-price, performance-based procurement tool for energy efficient investments. These contracts include a requirement “that appropriate performance quality levels are achieved, and that payment is made only for services that meet these levels.”¹ Energy performance contracts allow Federal agencies to procure energy efficiency improvements with little or no up-front capital costs and use the energy savings to repay the contractor for services rendered. In the case of Energy Saving Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs), FEMP is required to issue guidance for agencies to carry out these acquisitions. Energy Service Companies (ESCOs) implement ESPCs; they guarantee the energy savings and are required to

¹ https://georgewbush-whitehouse.archives.gov/omb/procurement/pbsa/guide_pbsc.html#appx4

develop and adhere to a measurement and verification (M&V) plan that defines how cost and energy savings will be calculated and verified throughout the life of the contract. A UESC is a partnership between a Federal agency and its serving utility to implement energy efficiency, water efficiency or distributed energy measures that improve infrastructure, and can help accomplish energy mandates, contribute to resilience, and optimize facilities. FEMP also issues UESC guidance on performance assurance.

Under most circumstances, federal contracts must be paid in the year the obligation is incurred, rather than financed over time. Financing, as with buying a home or car, adds additional cost to acquire the asset. The findings from FEMP's ESPC program from FY2013 to FY2018 show that financing comprises approximately 30 percent of the total project costs. During a performance contract, the project can be structured as essentially budget neutral under current law. The cost savings from the installed energy efficiency upgrade(s) goes to pay for the equipment, financing, and operations and maintenance services over the life of the contract. If the projects are more energy efficient than the contractor guarantees, then the government immediately obtains additional benefits from these incremental energy savings. Also, if the equipment purchases last longer than the term of the contract, the government also realizes all of the subsequent savings from the energy efficiency upgrade(s). Federal ownership of the equipment typically occurs after implementation and Federal acceptance of the project. In some cases Federal ownership occurs at the end of the contract.

DOE's engagement with performance contracting is twofold: as an agency utilizing performance contracts as a method of project financing, similar to the other agencies here today, and secondly via DOE FEMP's role and authority to provide technical assistance, program oversight and guidance to facilitate consistent implementation of performance contracting government-wide.

For the government to lower operating costs by operating buildings and facilities more efficiently, DOE and other agencies use a mix of investments that include appropriated funds, including, but not limited to General Plant Projects (GPP), Institutional General Plant Projects (GPP) and energy performance contracts. Performance contracting is one tool that implements savings through energy efficiency projects using private sector capital and public-private partnerships.

DOE FEMP's role is to provide agencies training and technical assistance as they work with ESCOs and utilities in planning, executing and evaluating projects to ensure good stewardship of taxpayer funds.

Most recently, Executive Order 13834 directs Federal agencies to manage their buildings, vehicles, and overall operations to optimize energy and environmental performance, reduce waste, and cut costs. It encourages Federal agencies to use performance contracts, which include ESPCs and UESCs, to achieve energy, water, building modernization, and infrastructure

objectives. FEMP plays a critical role in advising and assisting agencies in meeting this Executive Order goal.

Summary of Energy Performance Contracting to Date

FEMP estimates that government-wide, [since the programs began in the 1990s,] over 600 ESPC projects and over 2000 UESC projects have been implemented with energy infrastructure improvements of \$12.5² billion and with expected value of cumulative energy savings over the life of these projects of \$27.5³ billion.

Since 1992, these UESC projects resulted in federal infrastructure and equipment investment over \$3.7⁴ billion. Sixty-six utilities have active UESC Programs; 23 agencies have awarded UESCs in 43 states. DOE FEMP has offered a multiple award government-wide contracting vehicle, the DOE Indefinite Delivery Indefinite Quantity (IDIQ) ESPC contract since 1998, allowing all Federal agencies to award task orders of approximately 400 projects to multiple vendors/ESCOs. About \$6⁵ billion has been invested in federal energy efficiency and renewable energy improvements using the DOE ESPC IDIQ from 1998 through 2018.

Over the performance period of these projects, these improvements are estimated by DOE to result in about 550 trillion Btu in life cycle energy savings and will be paid from the more than \$13.7 billion of cumulative energy savings created by the projects. Twenty-one ESCOs are current awardees under the IDIQ contract (24 ESCOs support DOE ENABLE program, including several small business ESCOs). Since 1998, 36 Federal agencies have utilized the DOE IDIQ contract in all 50 states, Puerto Rico, and U.S. Virgin Islands. In fiscal year 2018, ESPCs awarded by Federal agencies using the DOE FEMP master IDIQ contract will provide \$809⁶ million of facility infrastructure investment (record year for DOE IDIQ contract) which will result in:

- 2 trillion Btu of ongoing energy savings annually
- Equivalent to the annual energy use of 25,000 average US households.

² Investment represents dollars at the time of award and is cumulative from the 1990's until FY2018. The total represents performance contracts for DOE IDIQ, Army MATOC, ENABLE, ESPC site specific, and UESC.

³ Savings are based on the DOE ESPC IDIQ and ENABLE contractual guarantees and estimates for UESC, the Army ESPC MATOC, and site specific contracts. These are the savings expected over the life of the contract. Measurement and verification is performed for ESPCs to verify if the contractually defined saving guarantee was achieved. Performance assurance is performed for UESC projects.

⁴ Investment represents dollars at the time of award and is cumulative from 1992 until FY2018

⁵ Investment represents dollars at the time of award and is cumulative from the 1998 until FY2018.

<https://www.energy.gov/eere/femp/downloads/doe-idiq-energy-savings-performance-contract-awarded-projects>

⁶ <https://www.energy.gov/eere/femp/downloads/doe-idiq-energy-savings-performance-contract-awarded-projects>

In addition to the FEMP IDIQ, there are several other options for federal agencies to award performance contracts. The U.S. Army Corps of Engineers also awards ESPC multiple award task order contracts (MATOCs), which are also available and primarily used by defense agencies. FEMP also initiated the ESPC ENABLE program, which standardizes and streamlines the procurement process for ESPCs designed for small projects to be awarded in six months or less. ESPC ENABLE uses a set of pre-established procurement and technical tools to administer projects through the General Services Administration (GSA) Federal Supply Schedule 84, SIN 246-56. Federal agencies also have the ability to enter into ESPCs or UESCs independently.

DOE Experiences in Energy Performance Contracting

The following are a couple of example projects to illustrate our experience in performance contracting to address energy efficiency, renewable energy generation, and resilience.

DOE implemented a comprehensive ESPC project at the DOE Savannah River Site involving the installation of a new biomass combined heat and power (CHP) plant that replaced aging infrastructure from the 1950s. DOE structured the ESPC contract at Savannah River to require that the ESCO also operate and maintain (O&M) the biomass CHP plant, including procuring the fuel. Having the ESCO retain full O&M responsibility mitigates the agency's risk for failure of the plant to perform or to predict potentially volatile operating costs.

As with any energy-related project within a facility, performance issues can arise. The next example provides insight on actions taken when guaranteed savings are not realized.

Specifically, DOE's National Renewable Energy Laboratory (NREL) installed a biomass boiler project in 2009. Through annual M&V, the efficiency of the boiler was found to be below the design requirements and thus the annual guaranteed savings was not being achieved. The shortfall in savings to the guarantee was withheld from the payment to the ESCO, and the ESCO implemented design changes and replaced portions of the equipment at their cost in year 6 of the 24 year project in order to restore the full guaranteed savings. Rigorous M&V approaches improve transparency of project performance and help ensure persistence of savings. Absent the annual M&V and ESCO guarantee, persistence of savings from the original design intent of the NREL project was not likely to have occurred.

FEMP's Continuous Improvement in Reducing Risks with Performance Contracting

Since the 1990's FEMP has provided best practices and subject-matter-expertise in support of agencies' utilization of performance contracts to achieve increased efficiency and Federal energy and water efficiency goals. FEMP also provides a multitude of on-demand, in-person and specialized training offerings to instruct agencies and utilities on best practices for implementing

successful ESPC and UESC projects, as well as comprehensive technical support to guide agencies through the implementation process.

An example of FEMP technical support includes:

- Review of energy audit technical scope of work
- Supporting contracting officer in reviews of price reasonableness
- Review and advice on measurement and verification plan
- Verification that FEMP process and procedures are followed including but not limited to the use of guidance on utility escalation rates
- Assistance and advice on best practices
- Negotiation support

Agency ESPCs have been reviewed on several occasions by different auditing groups (GAO and agencies IG). Both Congress and the Executive Branch including FEMP have taken this input into consideration to revise and improve the program. For example, improvements to M&V guidance has helped to ensure that agencies are achieving the guaranteed energy savings. Often, audits included recommendations for improved agency oversight of the programs, such as in the area addressing energy conservation measures (ECMs) or buildings where operational or mission changes have impacted performance. For its part, FEMP has used ongoing audit input to enhance its M&V guidance, project support, and life of contract monitoring and engagement with agencies on potential contract issues of concern.

As with any energy related project, within a facility, performance issues can arise. ESPC's requirement for a savings guarantee, assignment of risks and annual M&V, has provided DOE projects with safeguards against savings erosion over the life of the equipment. While there are complexities relating to things like financing, estimation of future energy prices (i.e., if future energy prices like natural gas or renewable energy trend down, then actual dollar savings may fall short of the savings projected in the contract), and estimation of maintenance savings, but they can be managed and FEMP provides specialized training and guidance to assist. In this regard, it is critical for FEMP to guide Federal agencies in proper contract oversight, to ensure that their teams are well trained in details of performance contracts, and if the agency is responsible for O&M, that they perform. It is also critical that other FEMP guidance, such as measurement witnessing, M&V, O&M savings validation, and other topics are closely followed.

Executive Order 13834, *Efficient Federal Operations*, has tasked Federal agencies that have issued government-wide guidance on sustainability, including DOE, with reviewing and revising guidance as necessary to meet the intent of the order. Accordingly, DOE has created a timeline for the systematic review of its guidance, including for performance contracting.

Going forward, we know there are potential opportunities for the use of ESPCs in several traditionally under-addressed areas. One of those is resilience, which is the implementation of systems that allow a facility, like a DOE lab, to continue operations in the face of problems, like

a grid outage. ESPC may be an effective tool to do things like installing backup generation, and microgrids. FEMP can help agencies facing challenges associated with using performance contracting to increase resiliency. This includes the determination of potential avoided energy related costs for consideration as savings for ESPC and UESC resilience projects.

Other opportunities include the use of performance contracting for the existing energy related backlog of deferred maintenance. According to the U.S. Treasury's Bureau of Fiscal Service, the U.S. government presently has over \$150 billion of deferred maintenance and repairs related to government facilities and equipment.⁷ ESPCs and UESCs provide a procurement mechanism for addressing the repair and replacement of energy related aging Federal building infrastructure. Clearly, not all deferred maintenance is energy or water related, but some portion of the problem may be addressed through these contracting tools. Additionally, FEMP's EISA 432 Compliance Tracking System (CTS) contains approximately \$8.5⁸ billion of agency self-identified energy and water related investment opportunities which potentially could be implemented with performance contracts. In FY17, the Federal government funded \$354 million of energy related facility improvements through direct obligations, whereas more than \$1.1 billion of facility improvements were accomplished through ESPCs and UESCs.⁹ As noted above, FEMP is reviewing related guidance to help agencies reduce risk associated with performance contracting focused on deferred maintenance.

To summarize, performance contracts, when applied wisely, are one tool in the government's toolbox to address ongoing infrastructure needs and efficiency improvements. Performance contracting has had a large impact on the improved energy performance of the Federal government over the past 20 years and can continue to be useful in the future, not only for continued progress in energy efficiency, but to help address backlogs of deferred maintenance and issues of resilience and security, as well. FEMP continues to improve its program tools and guidance for performance contracting. For instance, we will continue to refine M&V practices, collect more consistent data and improve guidance for energy cost projections. As we investigate the use of performance contracting to improve facility resilience and reduce deferred maintenance, we will ensure that taxpayers are getting the best value for these services.

I appreciate the opportunity to address you this morning, and would be happy to answer any questions you may have.

⁷ https://www.fiscal.treasury.gov/fsreports/rpt/finrep/finrep17/supp_info/fr_supplement_info_other_claims.pdf

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https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Reports/PublicAgencyReport_ComprehensiveEvaluationFindings.aspx

⁹ <http://ctsedwweb.ee.doe.gov/Annual/Report/InvestmentInEnergyEfficiencyAndRenewableEnergy.aspx>