

CONSTRUCTION OBSERVATION GUIDE FOR ENERGY SAVINGS PERFORMANCE CONTRACTS

PREPARED BY



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FORWARD

Energy savings performance contracting (ESPC) is a contracting method for providing energy, water, renewables, and resilient capital improvements that uses guaranteed utility and maintenance savings to pay for the cost of the improvements. The ESPC establishes a partnership between the service requesting facility owner and the Energy Service Company (ESCO) implementing the ESPC. The facility owner can use the ESPC to pay for today's facility upgrades with tomorrow's energy and operational savings.

The ESPC process has been established and refined for over 30 years with Texas Public Entities and is defined/governed by Texas Statutes (i.e. Local Government Code 302). ESCOs have delivered more than \$2 billion of ESPC projects to Texas government facilities including hundreds of projects to K12 districts, municipalities, universities, and state agencies. Public entities appreciate many benefits from this process, including but not limited to:

- Peace-of-mind due to ESCO-backed performance guarantees and third-party engineering reviews that mitigate design and construction risks, both immediate and long-term
- Streamlined process driven by a single point of accountability with ESCO acting as primary contractor and client advocate, and
- Financial stability created by resolving critical infrastructure needs by redirecting funds already being used in the budget to pay for utilities and maintenance.

Most ESCOs provide the partnership and expertise to guide facility owners through the entire ESPC process, from project development to construction. If the facility owner would like an additional set of eyes for oversight of the construction process, the following guidance can assist the facility owner add the "Construction Observer" expertise to the project. This guide focuses on the construction activities associated with the ESPC and presents the option of a construction observer(s), that contracts directly with the facility owner. Their job is to ensure buildings improvements match the scope of work agreed between the facility owner and the ESCO.

This guidance is reviewed and approved by members of the Texas Energy Services Coalition (a public-private nonprofit partnership of entities active in ESPC Industry in Texas)

CONSTRUCTION OBSERVATION GUIDE FOR AN ESPC

BENEFITS OF HAVING A CONSTRUCTION OBSERVER

- Facilitates the ESPC construction process
 - Assists the organization in understanding the construction review process
 - Supports the proper closing of the construction activities phase
- Ensures proper construction/installation of the energy and water-related improvements
 - Reviews construction/installation documentation
 - Reviews implementation of improvements
 - Reviews commissioning of improvements
 - Reviews quality control plan implementation
- Ensures ESPC design and construction documentation
 - Develops construction review comments logs
 - Reviews and files documentation of construction improvements

RESPONSIBILITIES OF THE CONSTRUCTION OBSERVER

- Pre-construction Review
 - Verifies receipt of the design documentation
 - Design drawings
 - Equipment submittals
 - Construction specifications
 - Compares design documentation with contractual Scope of Work
 - Validates completeness of design documentation
 - Visits the site to observe onsite conditions
- Construction Review
 - Monitors the construction schedule
 - Monitors the project budget
 - Notifies the facility owner in the event of change orders
 - Verifies the project construction conforms with the approved design documentation
 - Performs four onsite construction reviews:
 - Partial construction reviews (25%, 50%, 75% construction)
 - Observes construction activities, including installation of mechanical, electrical, and plumbing equipment
 - Compares construction activities with the design documentation
 - Design drawings
 - Equipment submittals
 - Construction specifications
 - Develops construction review comments logs
 - Documents all change orders
 - Submits documentation to the facility owner and ESCO
 - Verifies implementation and completion of the commissioning plan
 - Reviews commissioning plan
 - Witnesses commissioning process
 - Verifies implementation of the quality control plan
 - Inspections
 - Testing

CONSTRUCTION OBSERVATION GUIDE FOR AN ESPC

- Final construction review (100% construction completed)
 - Compares construction activities with the design documentation
 - Design drawings
 - Equipment submittals
 - Construction specifications
 - Develops final construction review comments log
 - Compiles all change order information and costs
 - Ensures all building improvements are operational
 - Ensures the facility owner receives all warranty documentation
 - Validates installed equipment conforms to design documentation
 - Validates installed equipment conforms to contractual Scope of Work
 - Verifies implementation and completion of the training plan
 - Safety
 - O&M
 - R&R
 - Validates receipt of construction and commissioning documentation
 - O&M manuals and procedures
 - As-built drawings
 - Quality control report
 - Commissioning report
 - Post installation report
 - Equipment data sheets
 - Equipment warranties and registrations
 - Prepares summary report
 - Submits summary report and support documentation to the facility owner and ESCO

TYPICAL QUALIFICATIONS OF A CONSTRUCTION OBSERVER

- Professional experience
 - ESPC implementation and performance
 - Facilities, utilities, and energy engineering
 - Project management
 - Federal, State, and/or Local Government ESPC regulations
- Licenses and certifications
 - Engineering or architecture professional license
 - Project management certification
 - Energy management certification
- Soft skills
 - Integrity
 - Leadership
 - Communication
 - Analytical thinking

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PROCURING A CONSTRUCTION OBSERVER

- The Request for Qualifications (RFQ) or Request for Proposals (RFP) are optional methods to select a qualified construction observer. Billing and payment terms are negotiated with the selected construction observer. Services are usually reimbursed based on agreed hourly rates.

APPENDICES

- US Department of Energy
 - FEMP ESPC Project Development Resource Guide
<https://www.energy.gov/sites/default/files/2019/12/f69/espc-project-development-guide-2019.pdf>
- State Energy Conservation Office
 - SECO's Energy Savings Performance Contracting
<https://comptroller.texas.gov/programs/seco/resources/espc.php>
 - SECO's ESPC Guidelines for State Agencies
<https://comptroller.texas.gov/programs/seco/resources/espc.php>
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- Energy Services Coalition
 - What is Energy Performance Contracting?
<https://energyservicescoalition.org/performance-contracting>
- The Texas Government Code
 - Energy Savings Performance Contracts
<https://statutes.capitol.texas.gov/Docs/LG/htm/LG.302.htm>
<https://statutes.capitol.texas.gov/Docs/GV/htm/GV.2166.htm#2166.406>
- Oregon Department of Energy
 - Energy Savings Performance Contracting
<https://www.oregon.gov/energy/energy-oregon/Documents/ESPC%20Guide%202016.pdf>