

Environmental Security Technology Certification Program (ESTCP)

**ENERGY EFFICIENCY TECHNOLOGY DEMONSTRATIONS INTEGRATED WITH
UTILITY ENERGY SERVICES CONTRACTS (UESC)**

OBJECTIVE

The Department of Defense (DoD) Installation Energy Test Bed seeks demonstration projects of innovative technologies and approaches to improve the energy and water efficiency of buildings on military installations. The demonstrations must be coordinated and integrated with utility energy services contracts (UESCs) in development at military installations to leverage common efforts in facility auditing, data collection, engineering, design and implementation. Technologies of interest include, but are not limited to, improved commissioning, HVAC performance, building envelope, management and control, lighting, micro Combined Heat and Power (μ CHP) and technologies that enhance the resilience of mission critical energy systems. The demonstrations should be of technologies that would not otherwise be included in the UESC due to a lack of technology cost and performance data or related concerns that hinder technology deployment and for which a demonstration would accelerate broader technology adoption.

Projects can be led by any entity; however, all projects must include the utility, or its representative energy services company, that intends to execute the UESC as a co-performer. Utilities are encouraged to collaborate and partner with installations as well as technology providers to identify innovative and impactful technologies for demonstration. It is expected that UESCs identified for demonstration projects have high confidence of eventual task order award and are at a stage of development that allows for coordinated design and implementation efforts. Proposals should explain how the demonstration technology will be integrated with the UESC to provide for the ongoing operation and maintenance of the technology beyond the term of the demonstration contract.

Demonstrations with the following characteristics are preferable:

- Technologies are sufficiently mature such that adoption of the demonstrated technology in future UESC projects within one year after conclusion of the demonstration is possible.
- High calculable energy savings, in addition to cost savings, as a direct result of the technology
- Potential for high savings-to-investment ratio (SIR) and short simple payback for deployment after the demonstration
- Minimal additional technology development required for deployment of the technology after the demonstration
- Cost sharing

BACKGROUND

UESCs are limited-source contracts between a Federal agency and serving utility for energy management and demand-reduction services. They are one of a few mechanisms through which military installations can procure energy projects that improve facilities performance and reduce energy related operations and maintenance costs. Many of the energy and water technologies demonstrated through ESTCP have the potential to be included in UESCs once cost, performance and reliability are proven and installations, utilities and contractors are confident in their understanding of the technology. Integrating demonstration projects with UESCs provides an opportunity for installations, utilities and contractors to get direct experience with new technologies in a way that limits technology risk to the UESC and incentivizes stakeholders to implement new and emerging technologies. The expected benefits of integrating technology demonstrations with UESCs are:

- DoD gets greater energy and water savings through continued operations and maintenance of installed technology beyond the performance period of the demonstration contract.
- Utilities, installations and contractors gain knowledge of new technology performance and experience with technology integration.
- Acceleration of technology transfer from demonstration to broader acceptance and deployment through UESCs.

The Department of Energy's Federal Energy Management Program (FEMP) offers information on UESCs including utility contact information and a map of electric and gas utilities that offer UESCs to federal agencies and DoD installations. Below are links to the FEMP website and related resources:

- [FEMP UESC Website](#)
- [Map of utilities that offer UESCs](#)

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