

**Environmental Security Technology Certification Program (ESTCP)**

**ENERGY GENERATION, STORAGE, DISPATCH AND MANAGEMENT ON  
MILITARY INSTALLATIONS**

**Objective**

The Department of Defense (DoD) seeks demonstrations of innovative technologies and methodologies to improve energy security on military installations. Demonstrations must provide valid assessments of cost, technical performance and acceptability to the DoD facility management community. Demonstrations should include technology transfer activities that have a feasible path to commercialization of products DoD facilities managers would adopt and implement to support the military mission on DoD facilities. The proposed solution must enable buildings and infrastructure to operate with public utilities and should demonstrate the ability to “island” from the electric grid for at least 120 consecutive hours with a minimum of 1MW of power continuously available and a minimum of 2MW peak demand for 4 consecutive hours.

**Desired Characteristics of Proposed Demonstrations**

- Control of distributed generation ramp rates to avoid system disruption
- Prediction and compensation for distributed generation intermittencies
- Power quality management (frequency, voltage, reactive power compensation)
- Physical and cyber secure communications with local utilities
- Operate cost effectively in regulated energy markets, or generate revenue through ancillary services in deregulated energy markets
- Potential for savings-to-investment ratio (SIR) greater than 2 and simple payback of 5 years or less
- Likelihood of adoption of the demonstrated energy security technology in an Energy Savings Performance Contract (ESPC) or Utility Energy Services Contract (UESC)
- Autonomous and/or semi-autonomous capabilities to respond to grid conditions or control signals from energy management systems
- Aligns with existing standards or contributes to current standards development to reduce recurrent engineering costs for microgrid infrastructure, controls and cybersecurity
- Results in standard microgrid components and operational practices for DoD bases
- Involves training for Facilities Managers and staff to safely and effectively operate the demonstrated equipment
- Enables multi-MW distributed generation systems on bases to provide power to military installations when the main electric grid is unavailable
- Cost sharing

**Point of Contact**

Dr. James Galvin

Program Manager for Energy & Water (EW)

Environmental Security Technology Certification Program (ESTCP)

4800 Mark Center Drive, Suite 17D08

Alexandria, VA 22350-3605

Phone: 571-372-6565

E-Mail: [james.j.galvin.civ@mail.mil](mailto:james.j.galvin.civ@mail.mil)

For pre-proposal submission due dates, instructions, and additional solicitation information, visit the ESTCP website at <https://www.serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations/Installation-Energy-Solicitation>.