

Environmental Security Technology Certification Program (ESTCP)

ENHANCED INSTALLATION WATER RESILIENCY

OBJECTIVE

The Department of Defense (DoD) Installation Energy Test Bed seeks demonstration projects of innovative technologies and approaches to improve the water resilience on military installations. Of particular interest are solutions that:

- Improve DoD's evaluation of water-related mission assurance risk on military installations.
- Accurately and cost-effectively identify leaks in water distribution systems.
- Supplement existing water sources for potable and non-potable applications including but not limited to consideration of improved desalination and water re-use technologies.
- Improve situational awareness of water consumption and availability of supply.
- Offer innovative business models for financing resilience improvements.

Proposals that include modifying or integrating with existing assets (e.g., privatized utility) that are owned or operated by non-DoD entities should include the asset owner/operator on the project team. Proposals that address only unique site-specific needs will not be considered responsive to the intent of this solicitation.

BACKGROUND

Demand for water for all sectors in the United States is primarily met by surface water and groundwater resources. Water demand is expected to increase with population and economic growth in areas that include those susceptible to drought. In many regions, surface water resources are already fully allocated under non-drought conditions and groundwater withdrawals exceed the rate of recharge, which leads to declining groundwater storage, sea water intrusion in coastal aquifers, and, in some cases, land subsidence. State water managers in 40 out of 50 states expect freshwater shortages to occur in their states in the next 10 years¹.

Military installations depend on reliable and secure sources of water to ensure mission execution, for both human sustainment and for supporting industrial and operational processes. Installation water projects are commonly implemented through Utility Energy Services Contracts (UESC) or Energy Savings Performance Contracts (ESPC). These project financing mechanisms require that the implemented project produce a utility (water) cost savings sufficient to pay back the capital improvement within 10-20 years. Since the early 2000s, DoD made notable progress reducing potable water use intensity through implementation of cost-effective projects; however the low cost of water is making it hard for water savings projects to meet the financial performance

¹ National Science and Technology Council. (2018), *Coordinating Strategic Plan to Advance Desalination for Enhanced Water Security*.

required for UESCs and ESPCs. While these project financing mechanisms are useful for improving water use efficiency, they do not provide for developing new sources or improving the security/resilience of existing water sources.

POINT OF CONTACT

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For pre-proposal submission due dates, instructions, and additional solicitation information, visit the [ESTCP website](#).