Working with Utilities to Increase Installation Resilience

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Assistant Secretary of the Army (Installations, Energy & Environment)
Army Office of Energy Initiatives (OEI)

Established by the Secretary of the Army first as a task force in 2011, then as a permanent office in 2014

• Serves as central management office for Army’s development, implementation and oversight of large-scale renewable and alternative energy projects that leverage private financing

• Secures Army installations with energy that is resilient, affordable and sustainable

• Focused on creating an “islandable” capability – energy security projects that include onsite generation, storage/supply, and controls

Redstone Arsenal, Alabama: 10 megawatt (MW) alternating current solar project with Army’s first privately funded, commercially available battery storage solution

Fort Hood, Texas: 65 MW AC Hybrid Wind & Solar Projects; Expected to provide $100 million in cost avoidance over the term of the 30-year contract
Roadmap: OEI Project Support for Installation Resilience

1. Prioritization of Critical Missions
2. Evaluation of Energy and Water Security Data
3. Analyze Gaps and Develop Solutions
4. Integration of Installation Energy Security Needs into OEI Project Requirement
5. Determination of Optimal Deal Structure Including: Private Investment, Private Financing, or Direct Appropriations
6. Development of a Resilience Project Centered around Onsite Generation, Storage, and Controls

As of 6 Nov 2017
Asset Integration for Increased Resilience
The Value of Utility Partnerships

The Army’s servicing utilities are trusted partners with critical knowledge of off-post transmission and on-post distribution systems.

Utilities currently provide the Army with resilience and energy security services, including:

- Upgrade, replace, or add redundant supply lines
- Install SCADA system
- Replace switchgear or substation
- Install generation
- System modeling, studies, & testing
- Micro-Grids
Shared Resilience Benefits: Schofield Barracks, HI

Project Concept
Hawaiian Electric will construct, own, operate and maintain a 50 MW biofuel/conventional fuel power generation plant on Schofield Barracks.

Army Benefit
During grid emergency, plant will provide 50 MW of “first call” and blackstart capability to three Army installations simultaneously; 5 days of fuel storage onsite, 30 days of fuel storage on island.

Utility Benefit
Hawaiian Electric will gain a critical generation facility above the tsunami strike zone, which during normal operations will power the Oahu grid.

Community Benefit
During an outage, will provide three installations with 100 percent energy requirements and could provide power to part of the surrounding community.

Under Construction, Operational 2018

As of September 2017
Army OEI Renewable and Alternative Energy Security Projects

86% with Onsite Generation
47% with Onsite Storage
51% with Onsite Controls
51% Islandable *
45% Solar
30% Biomass / Biofuel
12% Wind

* An islandable project is defined as a project with the ability to maintain operations when the electric grid goes down.

- 8.5 MW Hydro
  Rock Island Arsenal, IL
  Access to onsite contingency generation through a microgrid

- 60 MW Biomass
  Ft. Drum, NY
  Provides onsite generation through a microgrid

- 16 MW Solar
  JTFB Los Alamitos, CA
  Access to onsite contingency generation through a microgrid

- 50 MW Natural Gas
  20 MW Solar
  Ft. Sill, OK
  Access to onsite contingency generation through a microgrid

- 50 MW Wind
  15 MW Solar
  Ft. Hood, TX
  Access to onsite non-contingency generation

- 18 MW Solar
  Ft. Huachuca, AZ
  Microgrid ready onsite generation, feeds the external grid

- 10 MW Solar
  Redstone Arsenal, AL
  Access to onsite non-contingency generation

- 10 MW Solar
  Ft. Benning, GA
  Access to onsite contingency generation through a microgrid

- 14 MW Solar
  Camp Shelby, MS
  Microgrid ready onsite generation, feeds the external grid

- 13 MW Solar
  Ft. Benning, GA
  Microgrid-ready onsite generation, feeds the external grid

- 15 MW Solar
  Ft. Detrick, MD
  Access to onsite non-contingency generation

- 23 MW Solar
  Ft. Jackson, SC
  Onsite generation, infrastructure improvements, feeds the external grid

- 30 MW Solar
  Ft. Gordon, GA
  Microgrid-ready onsite generation, feeds the external grid

- 30 MW Solar
  Ft. Benning, GA
  Microgrid-ready onsite generation, feeds the external grid

- 10 MW Solar
  Ft. Rucker, AL
  Microgrid-ready onsite generation, feeds the external grid

- 30 MW Solar
  Ft. Stewart, GA
  Microgrid-ready onsite generation, feeds the external grid

Project Status

- **Phase 1:** Assessment
- **Phase 2:** Validation
- **Phase 3:** Contracts & Agreements
- **Phase 4:** Construction
- **Phase 5:** Operational

Renewable & Alternative Energy Key

- Biomass
- CHP
- Hydro
- Solar
- No Storage
- Battery Storage
- Storage
- Biofuel
- Geothermal
- Natural Gas
- Wind
- No Controls
- Controls

As of November 3, 2017

Increasing Energy Security and Resilience Across Army Installations
Contingency Microgrid RFI

Request for Information (RFI)
Joint Forces Training Base
Los Alamitos, CA

The Army is interested in gathering information on the feasibility of seeking competitive proposals from private, public or not-for-profit entities interested in leasing land at the Installation for the development of solar photovoltaic energy, energy storage or combination of technologies with microgrid type controls to electrically island the installation during external electrical grid outages or other threats to the security of JFTB - LA. JFTB - LA is a strategic asset for military units and other national, state and local organizations, including emergency operations for Southern California.

Responses are due by 11:59 pm Eastern on December 22, 2017. The RFI is posted on FedBizOpps:

https://www.fbo.gov/spg/USA/COE/DACA09/SPL09-AM-17-1101/listing.html
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