



AMERICA'S ARMY:

Globally Responsive, Regionally Engaged

NASEO: 2020 Energy Policy Outlook Conference & Innovation Summit

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for Energy and Sustainability

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Installation Energy Resilience



"Installations are where we build readiness, sustain the force, develop Army culture, and support our Soldiers and their Families. We must address the challenges of today, while thinking about the future, and transition our 'industrial age' installations to be resilient in the 'information age' of the 21st century."

- Honorable Alex A. Beehler

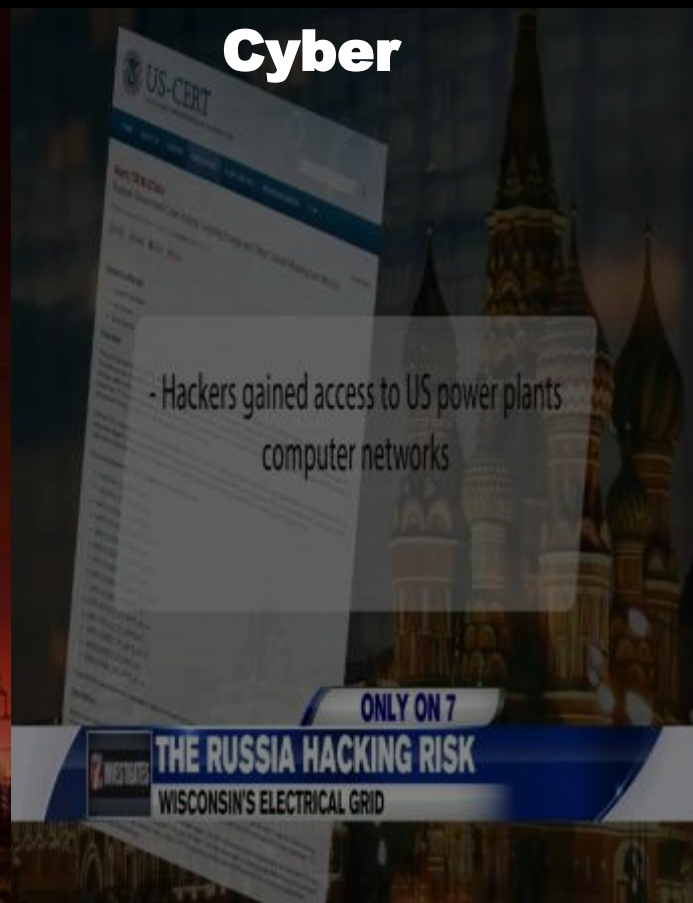
Assistant Secretary of the United States Army
Installations, Energy and Environment



Physical

Natural

Cyber



“Russia has the ability to execute cyber attacks in the United States that generate localized, temporary disruptive effects on critical infrastructure....Moscow is mapping our critical infrastructure with the long-term goal of being able to cause substantial damage.”



Implementation Methods

Appropriated

- Military Construction
- Energy Resilience and Conservation Investment Program
- Restoration and Modernization
- Army Working Capital

Third Party Financing

- Energy Savings Performance Contracts/ Utility Energy Service Contracts
- Utility Privatization
- Private Capital (Office of Energy Initiatives)
- Enhanced Use Leases

Low Cost/No Cost

- Planning
- Installation Energy and Water Plans
- Best Management Practices
- Energy Resilience Readiness Exercises



Fort Campbell, KY: MILCON

Conceptual drawing a microgrid included in the FY2018 NDAA



Anniston Army Depot, AL: UESC

Replacement and Modernization of Depot-wide central heating and process high pressure steam plants, HVAC equipment and controls, interior and exterior lighting, compressed air equipment and distributions, and potable water fixtures.



Schofield Barracks, HI: Lease

Project: 50 MW / 30 day contingency microgrid where Hawaiian Electric constructed, owns, operates and maintains a 50 MW multi-fuel power generation plant, fuel storage tanks, and controls.



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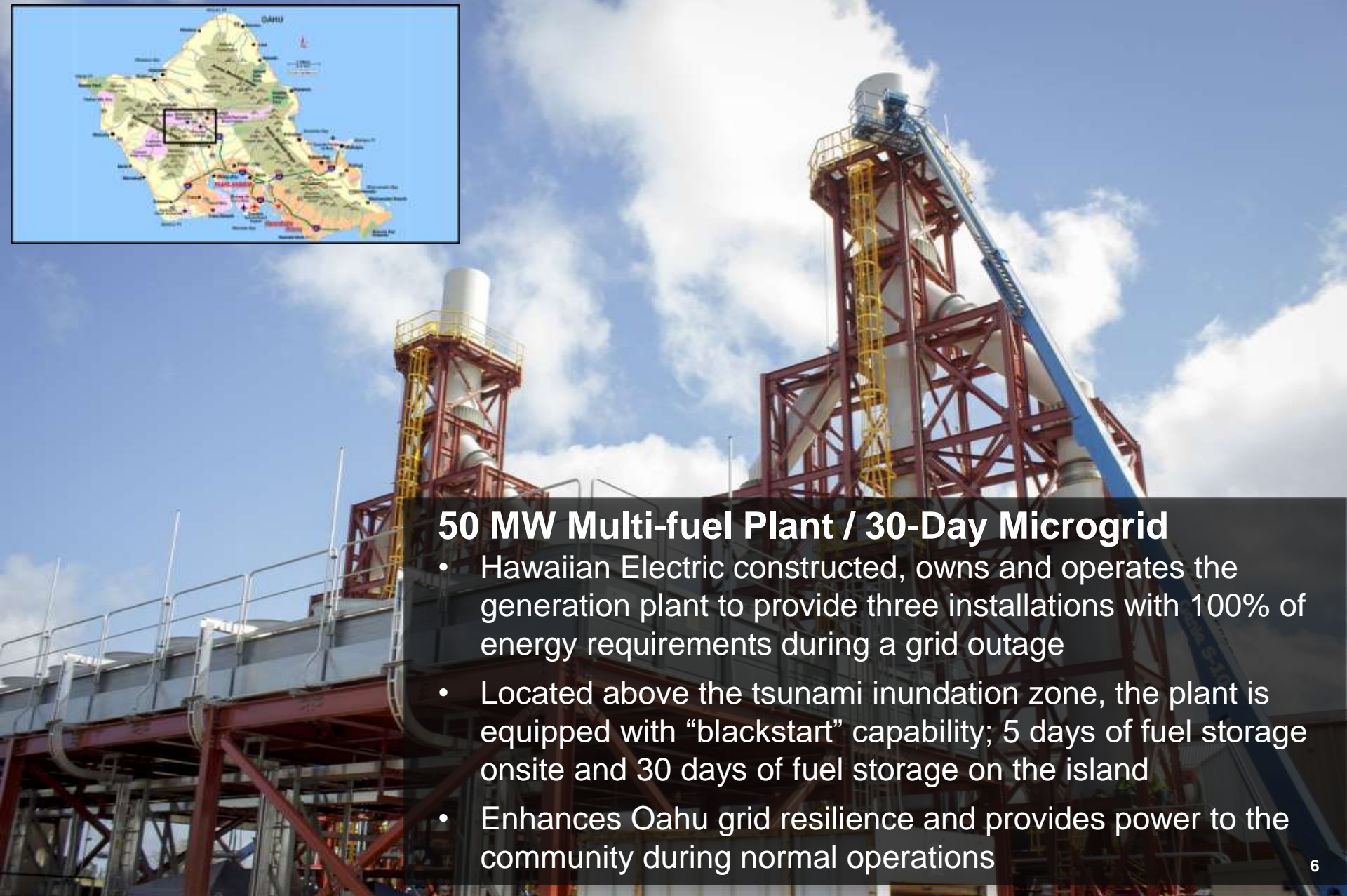
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Battery Energy Storage Fort Carson, CO



4.2 MW / 8.5 MW-hour BESS

- The largest peak-shaving battery on an Army installation
- The battery will offset the high energy demands placed on Fort Carson's power grid, especially during summer
- The battery will reduce the garrison's billed peak electric use by an average of 9 percent every month, which will save Fort Carson approximately \$525,000 a year



50 MW Multi-fuel Plant / 30-Day Microgrid

- Hawaiian Electric constructed, owns and operates the generation plant to provide three installations with 100% of energy requirements during a grid outage
- Located above the tsunami inundation zone, the plant is equipped with “blackstart” capability; 5 days of fuel storage onsite and 30 days of fuel storage on the island
- Enhances Oahu grid resilience and provides power to the community during normal operations



ATTACHMENT A - JFTB Los Alamitos - Map Delineating the Parcels



Islandable Energy Resilience Project

- The project will enhance energy resilience by providing “islandable” capability to power the base’s critical missions for a minimum of 14 days during an electrical grid outage
- During normal operations, the developer will sell power/services from the project to off-base customers via the electrical grid
- The project may also enhance grid reliability by alleviating transmission line congestion or providing other electrical grid quality-enhancing services

Legend

- Installation Boundary
- Site #5, North Runway = 16 acs.
- Site #6, Generation Site = 0.34 acs.
- Site #2, South Runway = 43 acs.
- Area
- 200' Wide Utility Easement



Environmental Security Technology Certification Program:

- Demonstrate innovative cost-effective environmental and energy technologies
- Promote implementation – Tech Transfer
- Energy & Water is one of the five ESTCP Program Areas



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