FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR
November 7-8, 2018
Herndon, VA

DOD Update – Navy

Hosted by:
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Department of the Navy
Enhanced Capabilities for the Mission

“Our access to and use of energy must continue to be secure, reliable, and resilient... we must realize the shore is an integral part of this equation since it serves as the backbone from which our forces fly, sail, submerge, and communicate.”

- ADM John Richardson, Chief of Naval Operations
Energy Security Framework

Energy Security

Reliable
Staying online

Resilient
Recovering from a disturbance

Efficient
Using the minimal amount of energy needed
REPO – What We Do

- Execute DoN energy security projects that improve mission readiness and enhance warfighter lethality while maximizing economic benefits

- **Reliability / Resiliency**: Enhanced Use Lease (EUL) & Power Purchase Agreement (PPA)
  - 745MW / $1.34B privately funded generation and microgrid assets

- **Efficiency**: Energy Savings Performance Contract (ESPC) & Utility Energy Service Contract (UESC)
  - $613M (FY19) infrastructure upgrades financed through efficiency savings

- **Navy Smart Grid**: Network of cyber secure connected infrastructure that improves resource and facility management

Preserving appropriated funds by utilizing alternative funding strategies
Energy Security to Support Navy’s Mission

**Reliability**
- Automated Controls
- Smart Grid
- Island Operations
- Modernized Systems

**Efficiency**
- Cost Savings
- Minimal Transmission & Distribution (T&D) Losses
- Renewable Generation
- Combined Heat & Power (CHP)

**Resiliency**
- Energy Diversity
- Modular and Scalable
- Responsive Technology

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Project Development

**Identify Problems: Gap Analysis**
- Utilize multiple inputs to compare energy requirements versus current state to identify energy needs
- Create prioritized list of requirements based on energy needs identified in Gap Analysis

**Identify Solutions: REPO Analysis**
- Assess information from prioritized requirements list in conjunction with market information
- Identify opportunities and solutions to respond to requirements

**Select Solutions: Installation Energy Plans**
- Use REPO solutions to break large scope into single projects, using all energy tools available (REPO Models 1-3, ESPC/UESC, etc.)
- Submit requested projects to EMIG

**Select prioritized and funded projects: EMIG process**
- Installations submit annual project execution request to NAVFAC
- EMIG identifies projects which are planned, prioritized, and funded, to create future project execution pipeline

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Project Execution (FY19)

Planned Awards
- EUL - Pendleton
- UESC – Camp Lejeune
- UESC – MCAS Cherry Point
- UESC – Dahlgren
- UESC – Kings Bay
- UESC – Quantico
- ESPC – Guantanamo Bay
- ERCIP – Diego Garcia PV Solar
- ERCIP – Portsmouth NH Steam
- ERCIP – Diego Garcia PV
- ERCIP – Guam Solar
- ERCIP – Wallops
Naval Submarine Base New London

- **Installation Mission:** As the DON’s primary East Coast submarine base, provide infrastructure for Navy operating forces and is homeport to 5 attack submarines

- **Project Summary:**
  - Fuel Cell and Microgrid
  - 7.4 MW
  - Partners Connecticut Municipal Electric Energy Cooperative (CMEEC), Groton Utilities and the state of Connecticut
Marine Corps Air Station Yuma

• **Installation Mission:** Provide aviation ranges, support facilities and services that enable forces to enhance their mission capabilities and combat readiness

• **Project Summary:**
  – Diesel Generator Peaker Plant and Microgrid
  – 25 MW
  – Arizona Public Service
Pacific Missile Range Facility, Barking Sands

• **Installation Mission**: The world's largest instrumented, multi-dimensional testing and training missile range.

• **Project Summary**:
  - Solar Generation with Integrated Storage
  - 19 MW generation and 60 MWh energy storage
  - Kauai Island Utility Cooperative
ESPC at Guantanamo Bay

Whole Base Solution

Peak Demand
~20.3MW pre
~17.5MW post

2 MW PV with ESS

PP3 Diesel Gensets

Guantanamo Bay
Cross-bay power and fiber optic cables are existing

CCPP

PV 0.965 MW
(Facility)

PP4 Diesel Gensets
6 x 3.5 MW

Wind
4 x 0.95 MW

PV 0.965 MW

Existing Generation (to remain)

New Generation

= Control System Upgrades Base Wide
Smart Grid Integration

Smart Grid is a centralized, cyber secure monitoring and control system that analyzes building energy and utility data to generate actionable information enabling more secure, efficient, and cost-effective energy management across the Department of the Navy.
Questions?