



# **Energy supply for mission critical facilities: Tiered requirements and capabilities of supporting energy systems – Panel Discussion:**

Energy Planning for Resilient Military Installations

December 5, 2017

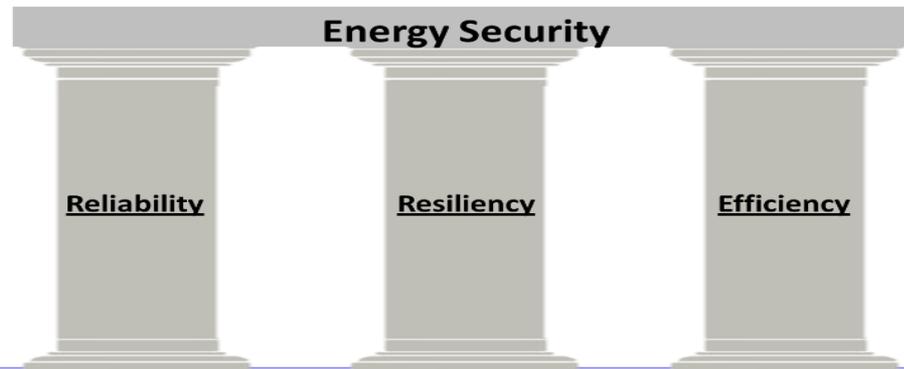
# Tiered Requirements - Navy



- BLUF: Energy security is defined as having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission essential requirements.

## Discussion

- Mission Assurance Benchmarks – Task Critical assets
- General Requirements – All Sites – Macro-approach



Three Pillars Benchmarks established in NAVFAC 3 Pillars of Energy Security (P-602) and the Energy Security Assessment Tool

# Tiered Requirements - DOD



• Policy Driver: DoDD 3020.40, *DoD Policy and Responsibilities for Critical Infrastructure*

- **Tier I TCA**. An asset the loss, incapacitation or disruption of which could result in mission (or function) *failure* at the DoD, Military Department, Combatant Commander, sub-unified command, DA or DISLA level.
- **Tier II TCA**. An asset the loss, incapacitation, or disruption of which could result in mission (or function) *severe degradation* at the DoD, Military Department, Combatant Commander, sub-unified command, DA or DISLA level.
- **Tier III TCA**. An asset the loss, incapacitation, or disruption of which could result in mission (or function) failure or *severe degradation* below the Military Department, Combatant Commander, sub-unified command, DA or DISLA level.
- **Supporting Infrastructure Critical Asset (SICA)**. A supporting infrastructure asset (SIA) that is directly used to support the functioning or operation of a TCA, such that the SIA's loss, degradation, or denial will result in the inability of the TCA to function or operate as intended in the execution of its associated MET or function. In other words, a TCA cannot operate or function without a SICA being available or functioning

# Electrical Power Systems – Benchmark Category



- Benchmark for Utility Assessments : DOD Mission Assurance Vulnerability Assessment Benchmarks; July 2017 Update

**CH9, Supporting Infrastructure: includes utility systems that support installation commanders' missions**

- Electrical power systems
- Water systems for cooling systems
- Sanitary sewage disposal
- Firefighting systems
- Industrial and potable water uses
- Bulk fuel storage and refueling
- Emergency generators and UPS
- HVAC systems
- EMP protection systems

2014  
DoD Mission Assurance  
Vulnerability Assessment Benchmarks



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# Risk Management Assessments



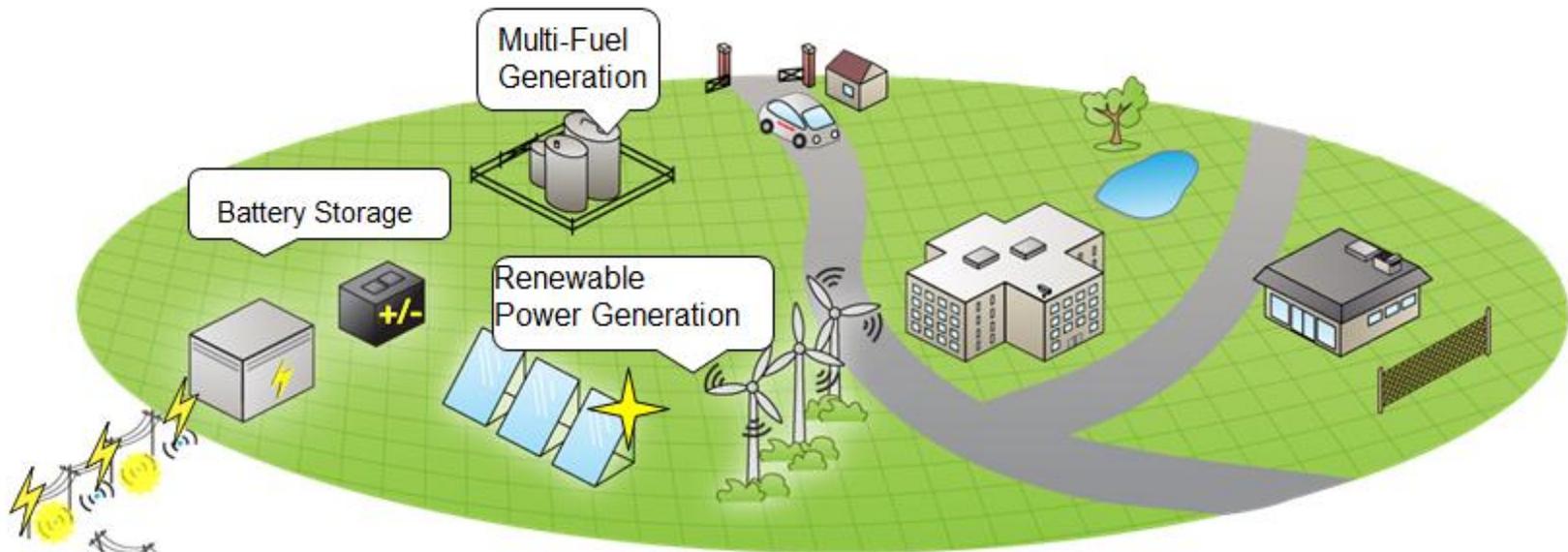
- Risk Management (RM) Process
- Threat Assessment (TA)
- Hazard Assessment (HA)
- Design Basis Threat (DBT)
- Criticality Assessment (CA)
- Vulnerability Assessment (VA)
- Emergency Management (EM) and CBRNE Vulnerability Assessment
- Food Vulnerability Assessment (FVA)
- Water System Vulnerability Assessment (WSVA)
- Special Event Vulnerability Assessment
- Off-Installation Asset Vulnerability Assessment
- EM and CBRNE Capability Assessment
- Fire Risk Management
- DoD Program of Record (POR) Vulnerability Database System
- Risk Assessment (RA)
- Risk Management/Risk Response Planning
- Ammunition and Explosives Risk Management

# Resiliency Overview

➤ Resiliency – the ability of a system to anticipate, resist, absorb, respond to, adapt to, and recover from a disturbance.

## Criteria considerations for Resiliency Performance

- Response time for service restoration to designated loads.
- Capacity and priority of supported load.
- Duration of islanded operation.

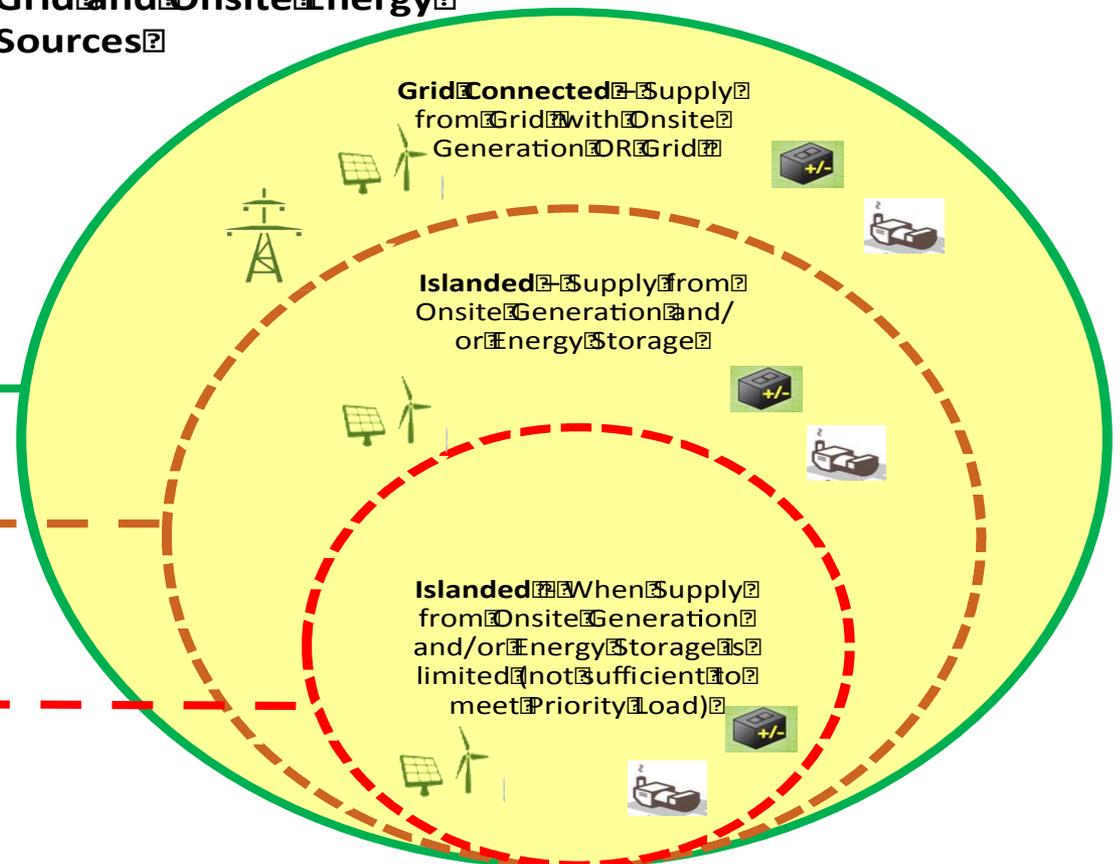
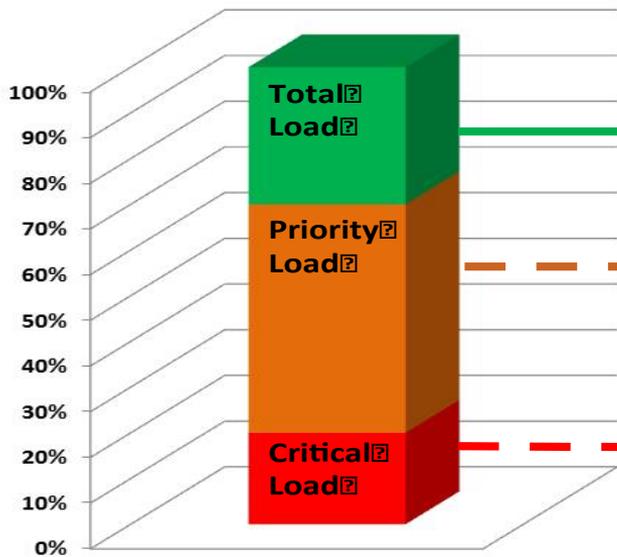


# Resiliency Strategy – Load Priorities



## Grid and Onsite Energy Sources

### Prioritized Loads



# Existing Resiliency Requirements (UFC) - Sample



UFC Source	CAT Code	Facility Type	Redundancy	UPS
UFC 3-540-01	12330	Vehicle and Equipment Ready Fuel Storage	Emergency Generator	None
UFC 3-540-01	13120	Communications Relay Facility	Emergency Generator	UPS Required for communication equipment
UFC 3-540-01	13122	VHF/UHF Communications Facility	Emergency Generator	UPS Required for communication equipment
UFC 3-540-01	13135	Receiver Building	Emergency Generator	UPS Required for communication equipment
UFC 3-540-01	13140	Telephone Exchange Building	Emergency Generator	UPS Required for communication equipment
UFC 3-540-01	13150	Transmitter Building	Emergency Generator	UPS Required for communication equipment

**Minimum Fuel Requirement (UFC 3-540-01):** Seven days either in a dedicated on-site main fuel tank or from a confirmed delivery source. When the seven day requirement is accomplished by a delivery source, provide each generator set with a minimum local 24 hour capacity tank based on the full-load fuel consumption rate of the engine.

# Questions



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