



• August 15-18, 2010 • Dallas, Texas •
• Dallas Convention Center •

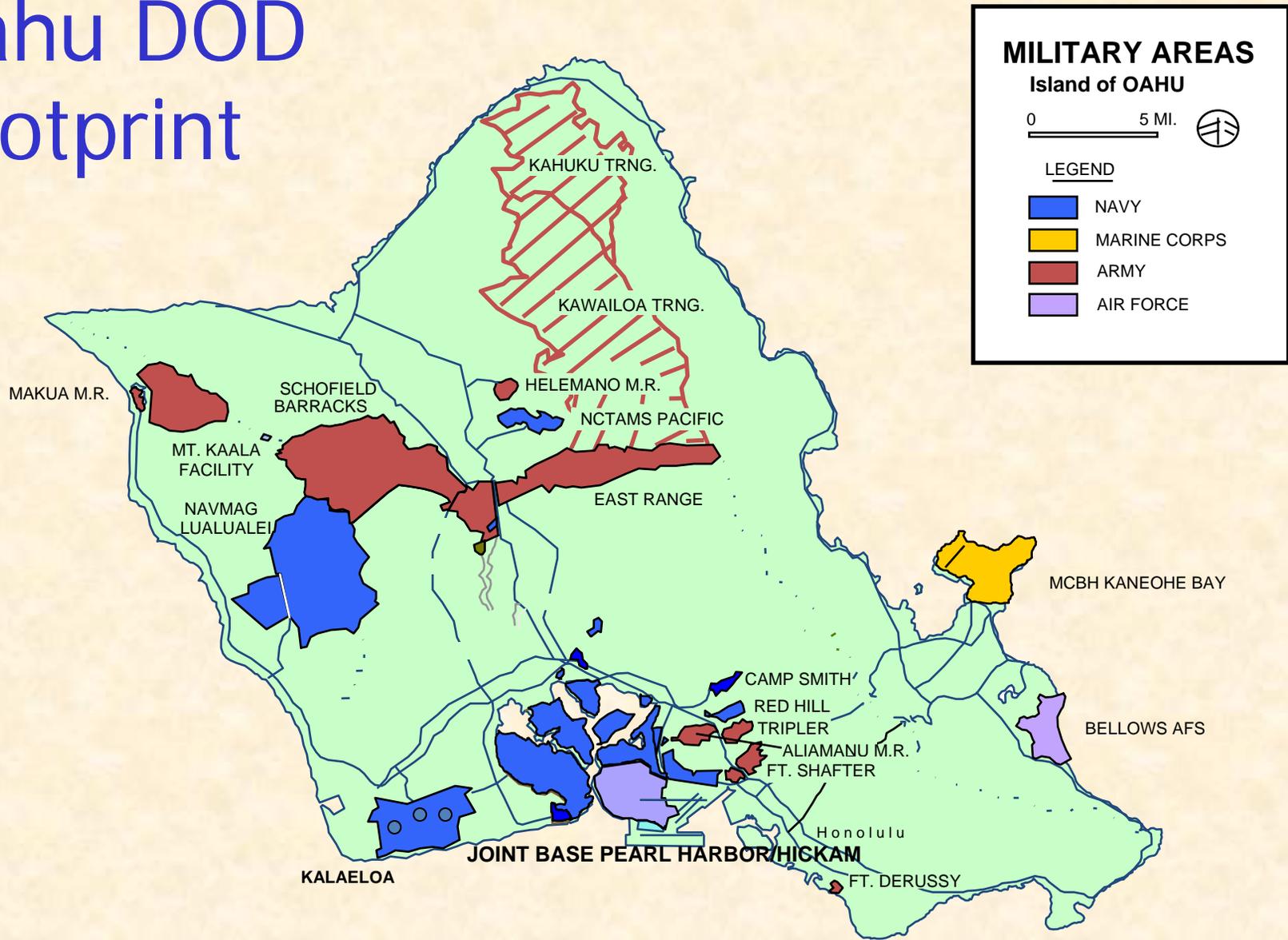


HAWAII EXPERIENCE

Topics

- DOD & Energy & Hawaii
- Renewable Energy Integration
- Cyber Security
- Biofuels

Oahu DOD Footprint



Energy Security Alignment

- Hawaii Clean Energy Agreement
- Pacific Command Hawaii Energy Strategy
 - “...essential to stay connected to the Grid...”
- We’re all in same Canoe!
 - Renewable Energy Integration
 - Cyber Security
 - (Bio)Fuels
- Integrated Energy Security Plan

Renewable Integration

- Multi Year Multi Award DOD Contract RFP
 - Intermittent generation on small island grid
 - Utility interconnect requirements coordinated in RFP
- Interconnection Principles
 - Obligation to Serve
 - Electric System is “party line”
 - Cost follows Causation
 - Equal Treatment for all Customers
 - Public Policy Instrument

Utility Interconnection

- Reliability = Security (principles 1&2)
- Main Reliability Concerns:
 - Power Quality (Voltage Standards, Protection Scheme)
 - New challenges
 - Distributed variable generation
 - Future Internet Protocol based substation communications

Cyber Security

- Communications is key to Smart Grid and renewable integration
 - Advanced Meters, Demand Response, Distributed Generation
- Increasing use of IP-based substation communications to support smart grid and legacy applications

Cyber Security

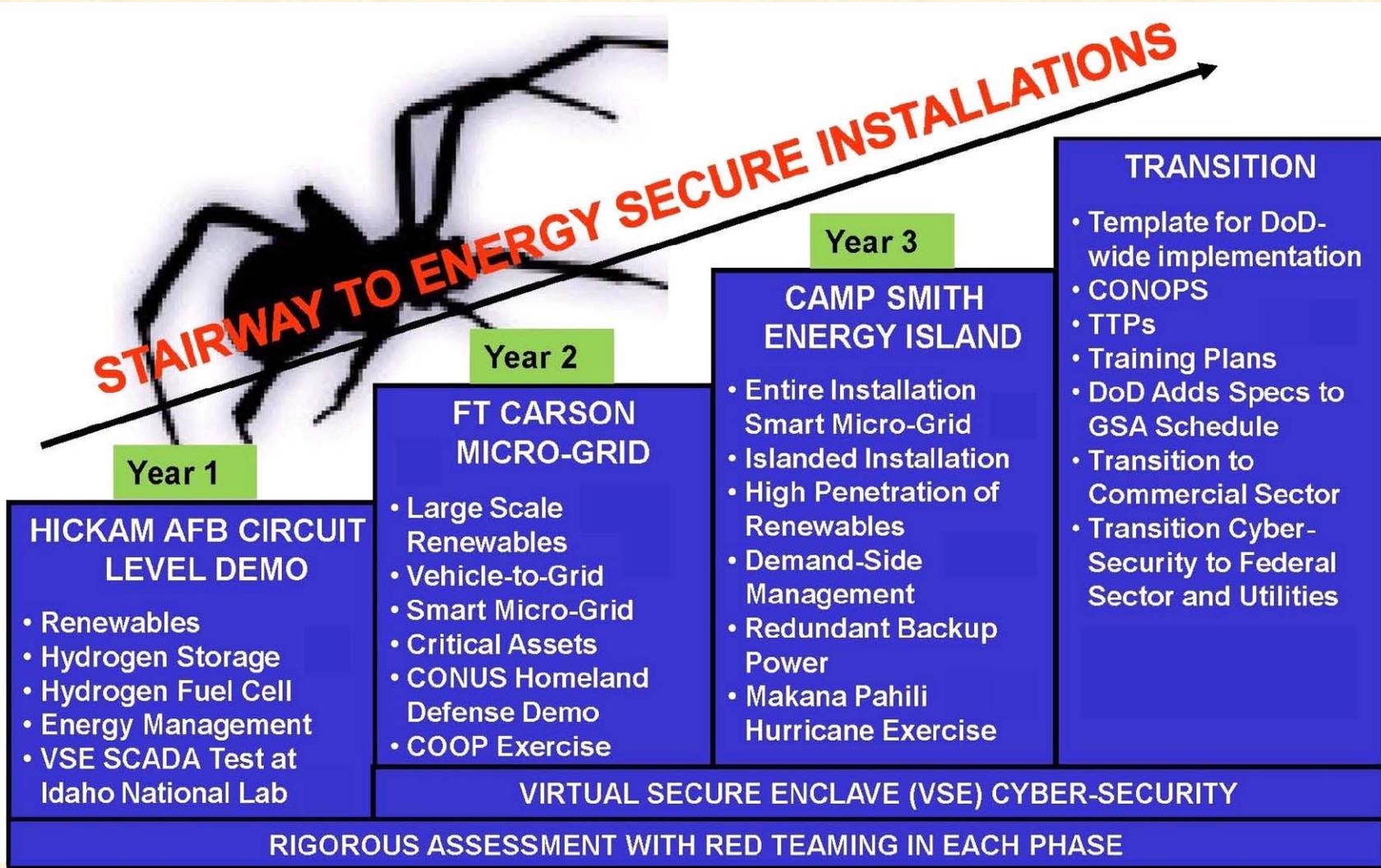
- Joint Capabilities Technology Demonstration (JCTD)
 - SPIDERS
- Grid Communications security test
 - Idaho National Lab

Smart Power Infrastructure Demonstration for Energy Reliability & Security (SPIDERS)

- **USPACOM, USNORTHCOM
DOE, and DHS**
- **DOE - 5 Nat'l Labs**
- **OSD Power Surety Task Force**
- **Military Services**
- **Defense Energy Support Center**
- **Local Utility Companies**
- **States of Hawaii & Colorado**



Expected SPIDERS Outcome



Cyber Security Test (Aug 2010)

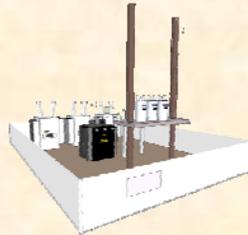
Wireless Residential
Electrical Meters



Wireless
Collection Point



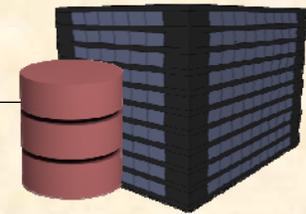
Distribution
Sub-Station



MPLS
Cloud



Energy Management
System



Biofuels

- State and DOD dependent on Petroleum
- Biofuels Working Group
 - Stakeholders – Requirements Generators, Procurement Agents, Industry (USN, Hawaiian Electric, DLA Energy, USDA, Air Transport Association)
- Key Issues
 - Requirements for Local Production
 - Sustainable Production Matters

Energy Security is a Joint Operation

- Model Framework for Government/Utility Energy Security Engagement
- Critical Infrastructure Protection Siting
 - Tinker and Robins AFB
- Communications
 - Hawaiian Electric/DOD Partnership

Questions?



GovEnergy 2010