



Federal Utility Partnership Working Group
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Jekyll Island, GA

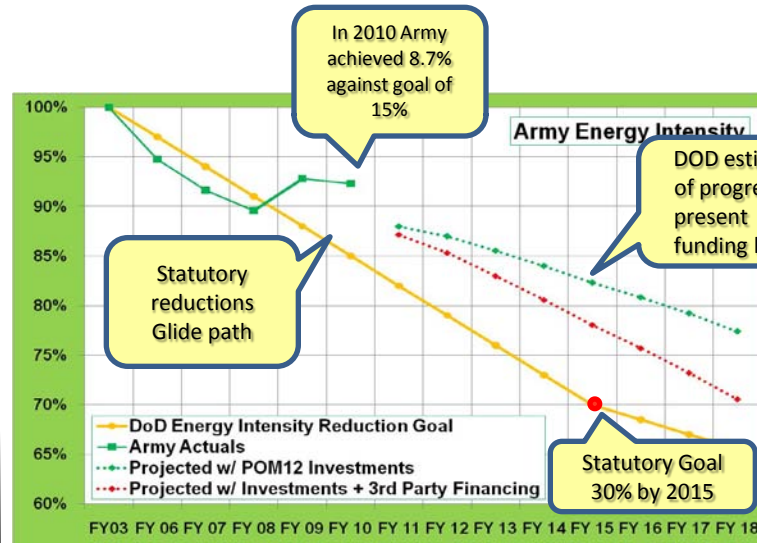
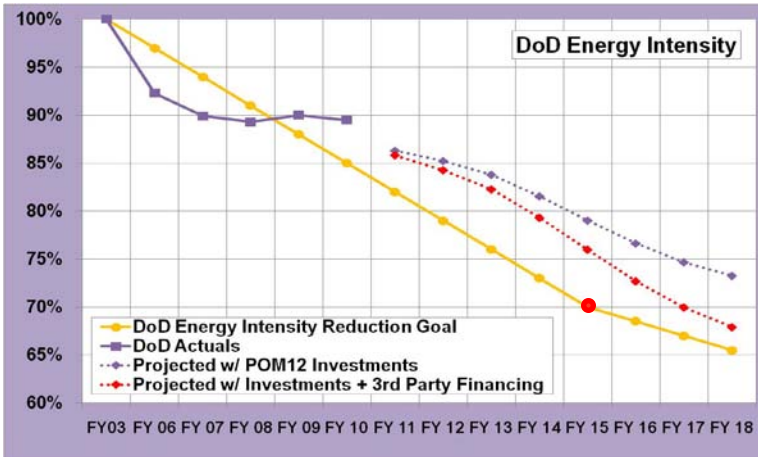
Utility Energy Services Contracting (UESC) Overview

Michael Norton

Huntsville Engineering and Support Center

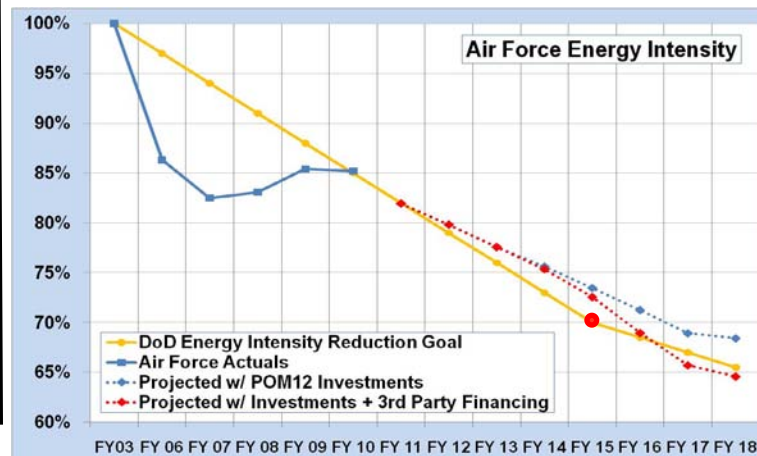
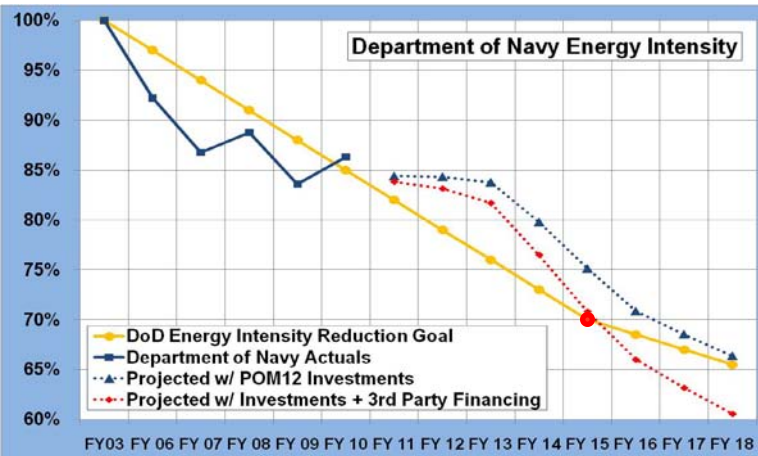
U.S. Army Corps of Engineers

Installation Energy Performance Across DOD



2010 Key Army Performance Metrics:

-Energy Intensity
Achieved **8.7%**
Goal 15.0%



-Renewable Energy
Achieved **2%**
Goal 5%

-Water Use
Achieved **-15.3%**
Goal: -6.0%

-Petroleum Reduction
Achieved **-2.2%**
Goal -10.0%

Utility Energy Services Contract (UESC)

- Procurement method using utility expertise and capital to meet Federal conservation mandates
- Very similar to ESPC, but limited to 10 year payback period.
- Allows utilities to provide Federal customers:
 - energy and water efficiency improvement projects
 - renewable energy projects
 - demand reduction services
- Utility's costs repaid directly from Installation's avoided costs resulting from project implementation
- Main difference between ESPC and UESC is the ability to go to the Utility (existing relationship) rather than an ESCO (new partner)

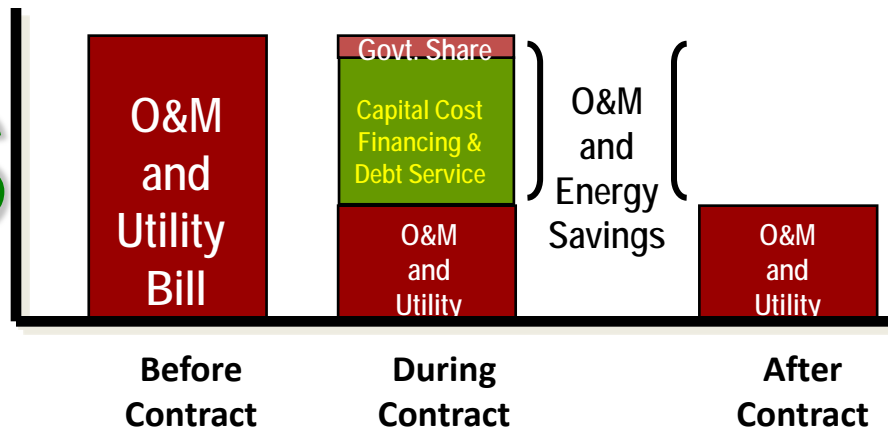
How Can UESC Help the Army?

- Utility Company fronts the capital costs
- Financed projects paid from consumption savings
- Utility Company can perform O&M on major systems
- UESC saves energy & water to meet goal

Army doesn't have sufficient funds for capital investment

Limited DPW maintenance resources

No increase in government spending occurs



Focus

- **Reduce consumption (energy, water, waste)**
- **Increase energy efficiency**
- **Use of renewable**
- **Assure access to energy supply**
- **Protect the environment**



Paradigm Change in Energy Program



Old Vision: Focus on individual facilities

New Vision: Holistic Integrated Approach

- Energy Master Plan – to develop phased execution with multiple funding sources
- Focus on energy systems to support groups of facilities to gain equipment efficiency, reduced maintenance and energy reduction
 - central heat plants
 - ground source heat pumps
 - solar hot water
- Size HVAC systems after building envelope improvements and other improvements
- After reducing loads, size renewable energy production systems to save on cost
- Leverage Major Renovation funding with third party financing to install energy and water conservation measures
- Utilize MILCON funded projects to compliment UESC projects
- Design and construct facilities where they can be supplied by alternative energy sources
- Employ projects to shift peak demand, add energy storage to reduce demand utility charges

Programmatic Challenges

- UESC projects impact to overall garrison energy/water reduction is not as good as it can be
 - Government not asking for what we need
- Holistic integrated approach vs. current individual buildings approach
- Combine the use of appropriated funds (NOT MILCON) with UESC projects

UESC Policy Guidance

- Experience from ESPCs –ESPC Policy Guidance Handbook 2005 & DEC 2008
- Draft “Department of the Army Policy Guidance for Implementation of a Utility Energy Services Contract” – Summer 2009
- New Army guidance is being drafted but has not been published

Memorandum of Agreement

- Framework governing the respective organizational relationships, responsibilities, and activities
- Outlines Roles and Responsibilities of each Agency
 - Manpower
 - Communication and Coordination Representatives
 - Funding
 - Dispute Resolution

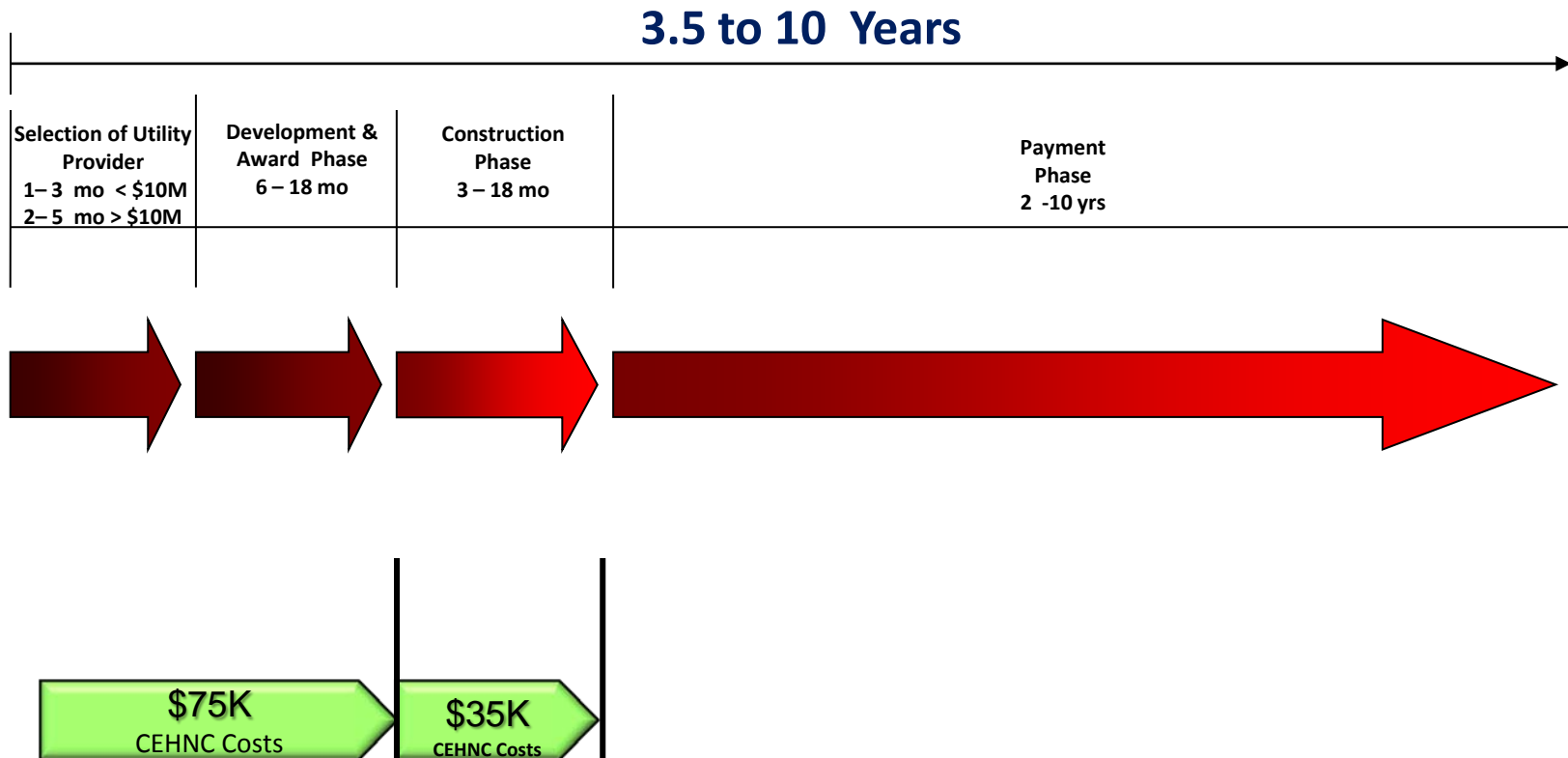
Typical Energy Conservation Measures (ECMs)

- Boiler Improvements
- Chiller Improvements
- Air Handling Equipment
- Controls
- Motors and Drives
- Upgrade of HVAC Systems
- Lighting Retrofits
- Renewable Energy Systems
- Building Envelope
- Water & Steam Distributions
- Electrical Peak Shaving
- Solar, Photovoltaic
- Ground Source Heat Pumps
- Generators
- Variable Frequency Drives
- Upgrade of Central Power Plants
- Metering & Energy Information Systems
- Gas-fired Infrared Heaters
- Primary/Secondary Pumping Systems
- Decentralization of Domestic Hot Water Systems
- Decentralization of Central Power Plants
- Wind

Contract Vehicles for UESCs

- Area-Wide Contract (AWC)
 - Agreement between GSA and utility
 - General terms and conditions for providing utility services for any Federal agency within utility's service territory
 - Huntsville Center places order under existing AWC
- Basic Ordering Agreement (BOA)
 - Similar to AWC but agreement between any agency and utility
 - Huntsville Center places order under existing BOA
- Agency Master Agreement
 - Similar to BOA but more flexible
 - Model agreement to be used under AWC, BOA, or alone
- Site-Specific Contract
 - Used for special situations and when no AWC exists

UESC Acquisition Schedule



Measurement and Verification for UESCs

- Required for Army *if* cost-effective (M&V can be waived if not found to be cost effective)
- Realize calculated project savings
- M&V Plan
 - Define performance goals
 - Define baseline performance
 - Identify way to measure energy consumption before and after project implementation
 - Assign roles and responsibilities
- Verify proper maintenance, operation, savings at least annually

HNC Implementation of UESC

Centralized Project Implementation

“One Stop Shop”

- **Utility Provider Selection Process**

- Criteria Evolution
- Selection Panel with HNC & Garrison (Balanced & Independent)

- **Life of Contract Support**

- One Stop Shop easier to monitor Army's Portfolio vs. a single project at garrison level
- Follow Army Guidance and provide Order award contract administration and assistance for the life of the contract.

Conclusion

- UESC is a proven tool to reduce Army energy and water consumption.
- UESC is a good solution when upgrades or modernization of existing equipment or systems cannot be funded through existing operating funds (SRM) or with other funding sources (MILCON, ECIP) in the required timeline.

Points of Contact

- Michael Norton, Chief, Energy Implementation Branch
lawrence.m.norton@usace.army.mil, 256-895-8232
- Will Irby, Program Manager
william.f.irby@usace.army.mil, 256-895-1337
- Lisa Harris, Project Manager
lisa.b.harris@usace.army.mil, 256-895-1344
- Earl Johnson, Contracting Officer
earl.w.johnson@usace.army.mil, 256-895-1128
- Bruce Forsberg, Technical Lead
bruce.w.forsberg@usace.army.mil, 256-895-1707

Measurement & Verification

M&V is addressed in the following phases

- Development
 - Agree upon an acceptable M&V method for each ECM
- Construction
 - Perform any required measurements
 - Submit all required data including measurements and calculations for the closeout documentation
 - Incorporate comments and resubmit closeout documentation as needed
- Payment
 - Perform any required measurements
 - Collect any required utility billing data
 - Collect any required operational data
 - Revise any required calculations
 - Verify that equipment is operational