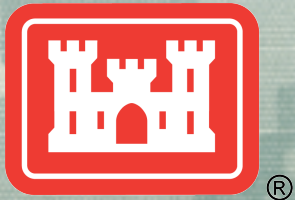


Deep Energy Retrofit Projects Challenges /Legal Issues

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Objectives

- Explain concept of Deep Energy Retrofit project (DER)
- Discuss tools available
- Identify authority to execute DER
- Identify issues / challenges to DER
- Discuss funding options
- Look at possible solutions



Deep Energy Retrofit (DER)

Overview

- Current renovation projects could, if combined with a DER, achieve significant energy savings.
- If combined with ESPC, be financed for up to 25 years and paid from consumption savings.
- Savings ensured by measurement & verification (M&V).
- If combined with UESC, project could be financed for up to 10 years and paid from savings..

Driver /Basis

- Energy Independence & Security Act (EISA) 2007
- Executive Order 13693 (March 2015)
Revoked EO 13423 of Jan 2007
- OSD MEMO, Energy Savings Performance Contracts and Utility Energy Services Contracts (24 Jan 2008)
- DODI 4170.11

Significant Obstacles

- Biggest issue is how to contract for this arrangement:
 - Have 2 contractors performing work together
 - Have prime solicit for an ESCO sub
 - Cannot direct prime to a specific ESCO sub
 - Provide ESCO/UESC equipment as GFE to other contractor
 - Determination of savings achieved and how to allow payment to the ESCO

On-Going Activities

- Trying to identify a renovation project to use as a pilot for a Deep Energy Retrofit (within Army)
- Initial project fell through due to lack of procurement strategy (waiting too late in process to work it out)



What Has Changed?

- The Energy Policy Act 1992 had this language: 42 USC 8287:
- (a)(1) “The head of a Federal agency may enter into contracts under this title solely for the purpose of achieving energy savings and benefits ancillary to that purpose.”
- 42 USC 8287a: Payment of costs “...may be paid only from funds appropriated or otherwise made available to the agency for fiscal year 1986 or any fiscal year thereafter for the payment of energy, water, or wastewater treatment expenses (and related operation and maintenance expenses).
- EISA – Dec 2007 added this to 42 USC 8287(a)(2):
 - (E) FUNDING OPTIONS-In carrying out a contract under this title, a Federal agency may use any combination of –
 - (i) appropriated funds, and
 - (ii) private financing under an ESPC



Is This Different?

- Not really. EISA uses the term “appropriated funds” while the original language is funds for energy and related operation and maintenance funds.
- Army policy does not allow the use of Military Construction (MILCON) funds – so it appears that Other Procurement (OPA) and Research, Development, Test and Evaluation (RDT&E) funds can be considered.



ESPC / DER Acquisition Tools

- Around May 27th, 2015, HNC awarded its next generation set of ESPC MATOCs to 14 Contractors (ESCOs) with a capacity of \$1.5 B
- This MATOC allows some incidental / ancillary work that could accommodate a DER project
- Since these are newly awarded, no DER project has been identified that might be executed under this vehicle
- Goal is to use these contracts for some type of DER project to assess application



Authority

- ▶ Deep Energy Retrofit (DER) is not defined in Army (or DoD) publications so what is the authority to do DER?
- ▶ DoDI 4170.11, Dec. 11, 2009, Paragraph 3.b.(1)(a)(3) discusses sustainable building designs. This paragraph states that “All new facility construction and major renovations **shall perform 30 percent better** than American Society of Heating, Refrigerating, and Air Conditioning Engineers Standard 90.1-2004.
- ▶ DoDI 4170.11, Dec. 11, 2009, Paragraph 3.b.(1)(b)(1) states: The DoD Components **shall ensure** that the energy efficiency measures are incorporated into repair and minor construction projects using available O&M funding. The DoD Components **shall also ensure** that sufficient O&M funding is available to **support other projects using alternative financing vehicles** such as UESC and ESPC.



Authority (cont.)

- EO 13693 (March 19, 2015)
 - ▶ Revoked EO 13423
 - ▶ Sec. 3 (h) Improve building efficiency, performance and management by: (i), (ii) and (iii) – having at least 15% of total square footage of existing buildings “comply with the revised Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings – with target of net zero by 2025.
 - ▶ And (viii) including the incorporation of climate-resilient design and management elements *into the operation, repair and renovation of existing agency buildings* and the design of new agency buildings. (Resilient means the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.)



DER Programmatic Challenges & Philosophy

- **Energy Master Plan**
 - ▶ 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
 - ▶ Employ projects to shift peak demand, add energy storage to reduce demand utility charges
- **Bundling**
 - ▶ HNC encourages ESCOs to bundle long payback ECMs with short payback ECMs
 - ▶ Bundling approach requires we take a master planning or holistic approach
- **Combining SRM with ESPC**
 - ▶ HNC has been successful in combining SRM with ESPC to leverage savings
- **O&M**
 - ▶ Only include for complex ECMs or where base does not have resources. O&M on simple measures causes other ECMs to be dropped
- **Implementation of ECMs outside of ESPC**
 - ▶ Must be careful in how you execute projects using appropriated dollars (don't take all the low hanging fruit)



Combined Funding in ESPC

- By utilizing an Energy Master Plan, bases can identify and utilize SRM/OMA dollars to help offset longer payback ECMs and use ESPC/UESC to do more work in a renovation project
- Many Army Garrisons making mistake of using SRM/OMA dollars to implement fast payback ECMs, cutting the legs out from under their ESPC before it gets started
- Identify potential SRM combinations early in ESPC process and have a plan to execute – difficult to do last minute



Combined Funding

- EXAMPLE:
 - ▶ Installation receives \$250,000 to renovate Building A. This will cover the cost of a new chiller and related piping/controls. Total project.
 - ▶ DER: Installation receives \$250,000. ESCO/UESC has proposed project adding insulation, new windows and solar water heater. Savings will pay for the additional work.
 - ▶ RESULT: A building closer to meeting the energy efficiency goals by combining the work. How it is procured will be the challenge.



Combined Funding

- Example 2:
 - ▶ Upgrading lighting fixtures and replacing all windows
 - ▶ During window replacement, structural issue encountered that has to be corrected and customer has funds (SRM/O&M) to do repair.
 - ▶ *maybe be sole source action, but this could be incidental work ESCO could execute*



How can USACE Help?

- With the new ESPC MATOC in place, we can engage in a dialogue regarding a potential DER project – to see if it can be solicited within the terms of these new contracts
- If involved with discussions that include the installation master planner as well as energy manager, might be able to identify an SRM project where potential for DER exists
- This will take a conscious effort to identify projects and will need everyone to look at the “big picture” and not a specific effort / repair /renovation project.



DIA Successful DER

- A partial DER is being executed at DIA
- Work involves construction executed by the Baltimore District and a Utility Energy Services Contract (UESC) executed through Huntsville
- The initial challenge was to get the project started. There continue to be growing pains, for this non-traditional project. [Construction requires complete/usable facility]
- Have to have constant communication with all the contractors on site, as well as the customer. Schedule issues can have impact across the board.



CONCLUSION

- DER projects can be planned and executed using SRM funds, as well as third party funding through ESPC/UESC
- For buildings to achieve net zero and/or the energy efficiency goals in the March 2015 EO a DER has to be one of the tools to be considered.
- For success there has to be commitment from all parties involved.



Questions?

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