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The Utility Energy Savings Contract for Brookhaven National Laboratory

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Tonight's Presentation

Answering the questions:

- *What is a Utility Energy Services Contract?*
- *Advantages of a UESC*
- *Why a UESC at BNL?*
- *The UESC at BNL:*
  - *Who are the parties to the UESC?*
  - *What are the terms of the contract?*
  - *Where will the efficiencies be found?*

What is a Utility Energy Services Contract (or, UESC)?

- Authorized by the Energy Policy Act of 1992, a Utility Energy Service Contract (UESC) is a limited-source contract between a Federal agency and its serving utility for energy management services, including energy and water efficiency improvements and demand-reduction services.

What is in a UESC?

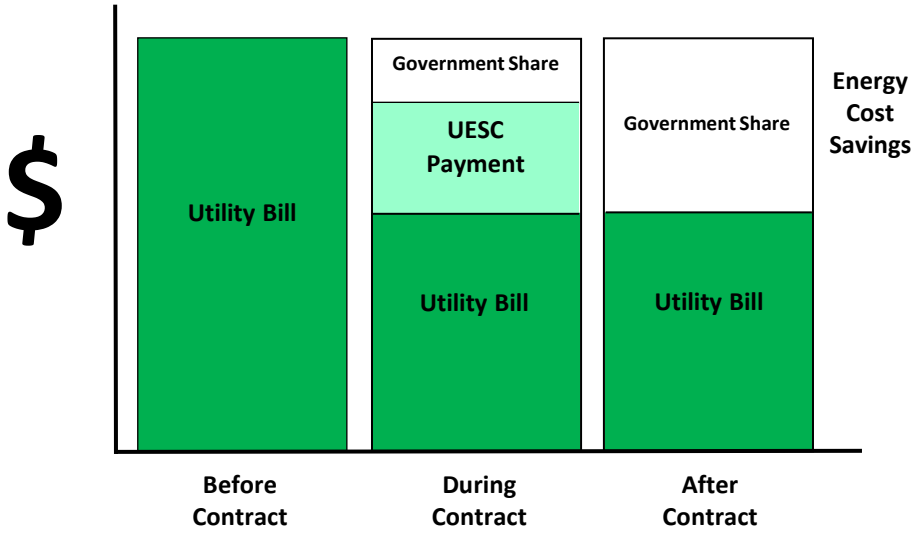
- In a UESC:
  - A utility company agrees to provide a Federal agency with services and/or products that make facilities more energy efficient.
  - The Federal agency can obtain financing for the project from a utility company.
  - During the contract, the agency pays for the cost of the UESC from the savings resulting from the energy efficiency improvements.

Why a UESC?

- As the largest energy consumer in the U.S., the Federal Government has the opportunity *and* responsibility to lead with smart energy management.
- A UESC reduces Federal impact on the environment, increases national energy security, and promotes public-private partnership.

Advantages of a UESC

- The UESC reallocates the utility bill:
  - Avoids costs
  - Lowers demand
  - Pays for equipment/improvements
  - Achieves cost savings



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Other advantages of a UESC

- Streamlined procurement, flexible contracts
- Relationship with a long-standing entity
- Flexibility in performance assurance
- One-stop shop for a turnkey project
- Low finance rates
- Implementation of energy efficiency projects without using direct appropriations

The Purpose of a UESC at BNL

- To meet DOE's sustainability goal by:
  - Increasing lighting efficiency
  - Replacing/enhancing outdated building controls
  - Reducing chilled water costs (including cost of fuel used to produce chilled water)

- To achieve reductions (from baselines) of:
  - 3.3% in green house gases
  - 11% in energy intensity

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UESC Details

- Contractor: National Grid (facilitates design, finance, construction)
- Service provider: Siemens Building Technologies (conducts the work)
- Contract term: 10 years
- Total cost: $12.2 million
- Savings (projected): >$1.3 million/year

Lighting Improvements in 17 Buildings

- Install/replace lighting and add controls:
  - New lighting fixtures
  - Retrofit existing lighting fixtures
  - Occupancy sensors
  - Timers
  - More efficient bulb replacements

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Controls Improvements in 9 Buildings

- Install/replace existing systems that control major components of mechanical systems, including:
  - Discharge air to control valves
  - Temperature control
  - Additional zone sensors
  - Demand control ventilation
  - Night setback
  - Variable frequency drives
  - Economizer cooling
  - Hot water reset

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Chiller Installation, Central Chilled Water Facility

- Install new electric centrifugal chiller and related components/systems, including:

  - One 1,250 ton chiller
  - Cooling tower cell
  - Chilled water pump
  - Condenser water pump
  - Variable frequency drives
  - Instruments and controls
  - Mechanical and electrical connections

Utility Energy Services Contract

- Questions and Answers