



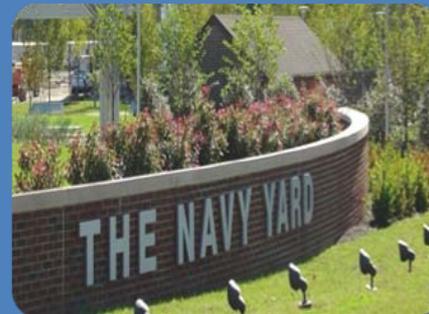
**FUPWG** ★ October 25-26 2011  
Philadelphia, PA

**Federal Utility Partnership Working Group**  
**Fall 2011**  
**Philadelphia, PA**

# Philadelphia Navy Yard

## UESC project with PGW

ESCO Perspective  
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Constellation Energy



# Constellation Energy Key Facts

## Integrated Energy Company

- Generation - 12,000+ megawatts of owned generating capacity (fossil, nuclear & renewable )
- Electric Commodity - 62 million MWH peak load served to retail power customers (2010) Trusted supplier to 2/3 of the Fortune 100
- Gas Commodity - 334 million mmBTUs of natural gas delivered in open retail markets (2010)
- Owns Baltimore Gas and Electric

## ESCO Services

- More than 25 years of comprehensive energy projects through performance contracting.
- Over 4,000 Energy Savings Projects implemented for large governmental, institutional, and private sector customers



- **Established:** 1816
- **Employees:** 10,000+
- **Assets:** \$20.0 billion (2010)

# UESC Support Capabilities

- Involved in program since 1980's
- Worked with eight utilities
- Projects ranging from \$35 M (phased award)  
down to \$2 K (small study)
- Fastest project - 1 week from start to DO
- Customer dynamic vs. ESPC

# Philadelphia Navy Yard - Historic Context

- Nations oldest shipyard
  - Established in 1801
  - League Island Facility built in 1877
- Home to world's largest crane for many years
- Employed 40,000 people at its peak
- Location where Battleship New Jersey & Wisconsin were built



# Current Operations

- US Naval Operations
  - Naval Surface Warfare Center Ship Systems Engineering Station (a/k/a Carderock)
  - Naval Facilities Engineering Command Mid-Atlantic Public Works Department (PWD)
- Philadelphia Industrial Development Corp
  - Aker Shipyard
  - Tasty Baking Company
  - Urban Outfitters
  - Energy Innovation Hub



# UESC Project Profile

- Phase 1 Scope - decentralization of central heating plant and install gas pipeline and separate heating systems for each building
- Buildings affected – 21 buildings covering 1.3 million sq/ft of heated space
- Project size - \$15 million
- Timeline - Project award expected Feb 2012 with construction completion by Oct 2012

# Building Breakdown

## Group 1 Buildings - NAVSSES Group:

Group One Buildings		
Building #	Building Function	Area Sq. Ft.
4	Command Engineering Complex	210,000
29	Machinery Network Integration Facility	49,556
519	Ship Simulator (fed from 633)	Incl. in #633
520	Office & Auxiliary Equipment Facility (fed from 633)	Incl. in #633
633	Propulsion Systems Research & Test Facility	160,300
666	Pumphouse (fed from 633)	1,650
745	RDT&E Support Facility	4,818
824	Small Gas Turbine Test Facility (fed from 633)	1,624
1000	Ship Engineering & Test Facility	376,000
	<b>Total</b>	803,948

# Building Breakdown

## Group 2 - Public Works Department Group:

Group Two Buildings		
Building #	Building Function	Area Sq. Ft.
1	PW Office	33,987
20	Foundry	144,402
56	Fire Station	28,585
545	Warehouse (FISC)	40,000
546	Heavy Assy Bldg	48,251
592	Pattern Shop	78,583
615	Medical Clinic (BUMED)	17,005
643	Public Works Shop	24,370
712	Admin (Electronics Lab)	15,504
1029	Propeller Facility	90,180
1081	Hazmat Center	10,624
1082	Hazardous Waste Handling Facility	14,784
	<b>Total</b>	546,275

# Challenges - Location

- Historic nature of site requires planning and approvals from multiple parties and levels
- Over 12,000 ft of underground pipe work which could encounter all sorts of things
- Layout of site will require pipeline to be tied in from different directions



# Challenges -Building Types

- No two buildings are alike
- Range in size from 372k to several thousand
- Function ranges from foundry to research to office to fire station to medical clinic to .....
- Separate approvals from Carderock & DPW



# Challenges -Schedule

- Government has committed to de-coupling from central plant this spring
- Project must be awarded, built and operational by Oct 2012
- Construction start in March 2012
  - Equipment on order
  - Environmental and permitting received
  - Task Order Awarded
  - Feasibility Study reviewed and approved
- No room for schedule slippage

# Benefits to the US Navy

- Savings to US Navy \$2.2 million per year
- Infrastructure upgrades of \$15 million
- Improvements to the environment from reduced fuel consumption
- Prepare project team for next round of UESC projects