



NAVFAC Southeast - PWD

UESC Success Stories @ NAS Pensacola

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Scope and Steps



- UESC (9 Step) Process enabled by BOAs with Gulf Power (electric) and Energy Services of Pensacola (natural gas)
- Project identified and / or initiated by –
 - Billing Analysis
 - Walkthrough Audit
 - Tenant Request
- Government estimate is developed, projecting the scope of potential measures and construction costs

UESC 9 Steps



- **Step 1) Project Start**
- **Step 2) Project Request**
- **Step 3) Initial Audit**
- **Step 4) Decision to Proceed**
- **Step 5) Detailed Energy Study (DES)**
- **Step 6) Award Letter**
- **Step 7) Construction Award**
- **Step 8) Project acceptance**
- **Step 9) Payments complete.**

UESC Project selection



- Obtain approval to initiate project (Step 2)
- Request of Preliminary Facility Analysis (PFA) from Contractors
- Evaluate PFAs (measures, energy savings, paybacks, etc.)
- Select Contractor to proceed and get approval for Design (Step 4; financial commitment)
- If all looks good, request Approval to Award (Step 6 – requires competitive pricing of contractors and financiers)

Negotiations and Finance options

- At Contractor selection (Step 4), scope of work is defined to acceptable measures that will deliver savings within acceptable Life Cycle Costs.
- Before Award, final pricing and financing are reviewed. Price and terms are finalized.
- Award approval (Step 6) is based on completed design and savings projections.
- NOTE: since this is a UESC process, savings are only verified through the first 2-3 years of operation. Performance Verification is not tied to a hard M&V-type of guaranty as seen with ESPC projects.

PWD Chiller Plant – Navy Hospital



Original System –

- Existing plant operations included a 700 Ton electric centrifugal chiller in series with a 900 Ton Absorption Chiller
- Absorption Chiller utilizes steam from one of three large boilers
- Constant speed pumping for CHW and CW loops

Initial options considered –

1. Remove steam absorber and one package boiler; install 2000 KVA generator and new 1,000 Ton VSD electric chiller
2. Remove a package boiler; retain steam absorber and 700 T unit; install new 1,000 Ton VSD electric chiller (Best Option)

Final scope proposed for UESC project –

- Install new high efficiency 'lead' VSD Chiller, EMCS upgrade, VSD primary-secondary pumping, re-pipe chillers from series to parallel operation, and electric system and CT upgrades
- Absorption chiller retained for emergency use

Chiller Plant Project - Costs & Savings



- Energy use reduction – 55,639 MBTU (90% gas savings)
- Construction Cost – \$4,307,713
- Financed Cost – \$5,272,548
- Annual Savings – \$650,417
- Payback Term – 8.25 years
- Completion Date – October 2008

Summary (& Questions?)



Due to the success of the UESC process, NAS Pensacola has proceeded to develop projects for the current year and has a queue developed for the future.

The End!

Thank you for your time,

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