



An Energy Efficiency Workshop & Exposition

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Palm Springs, California

*Marketing UESCs:  
Lessons Learned at Eglin AFB*

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CHELCO

June 2-5, 2002

[www.energy2002.ee.doe.gov](http://www.energy2002.ee.doe.gov)



## *CHELCO*

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- ❑ Serves portions of four counties in Northwest Florida panhandle
- ❑ 35,600 services in place
- ❑ 3,190 miles of lines
- ❑ 10.5 members per mile of line
- ❑ 113 employees
- ❑ Provides electric service to Eglin AFB eastern ranges



## *Eglin Air Force Base*

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- ❑ Belongs to Air Force Materiel Command
- ❑ Air Armament Center is the host unit
- ❑ Team Eglin comprised of 45 associate units
- ❑ 60-year community presence
- ❑ Covers 724 square miles of reservation
- ❑ Has 97,963 square miles of water ranges in the Gulf of Mexico



## *Eglin Air Force Base*

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- Employs 8,500 military
- Employs 4,500 civilian
- Served by
  - Gulf Power
  - Florida Power and Light
  - CHELCO
  - Okaloosa Gas



## *Project Initiation*

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- ❑ CHELCO contacted Eglin about potential privatization of Eastern ranges
- ❑ Eglin resisted privatization efforts
- ❑ Eglin's Energy Manager suggested possible Energy Conservation partnership for Eastern ranges
- ❑ CHELCO interested in exploring possibility



## *Exploration*

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- Realization of internal lack of resources
- Turned to Alabama Electric Cooperative, CHELCO's G&T
- Scheduled meetings with two experts
- Selected Sain Engineering & Associates



## *Sain Engineering*

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- Energy conservation engineering services
- Experience with numerous DoD clients
- Extensive working knowledge of Energy Conservation Agreements
- Strong relationships with key players at Air Force Civil Engineering Support Agency



*Stephen P. Sain, P.E.  
C.E.M., C.E.P., C.L.E.P.*

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- More than 20 years related experience
- AEE International Energy Engineer of the Year--1994
- DoE/FEMP Certified Life Cycle Costing Trainer
- Co-Instructor of AEE's 5-Day Certified Energy Manager Training Course
- Developed Air Force Energy Measurement & Verification Training Course



## *Provision for Energy Programs*

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- *Executive Order 12902  
Energy Efficiency & Water Conservation at  
Federal Facilities*
- *Defense Energy Program Policy  
Memorandum (DEPPM) 94-1  
Participation in Public Utility Sponsored DSM  
Programs*
- *10 USC #2865  
Energy Savings at Military Installations*



## *Energy Conservation Agreement*

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- Met with Eglin personnel on several occasions
- Discussed possible projects (focused on Eastern ranges)
- Discussed possibility of projects on main base
- Agreement signed in July 1998



## *Preliminary Audit*

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- Requested in August 1998
- Issued only for Site C-6



## *Site C-6*

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## *Site C-6*

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- Remote Eastern range
- Home to the world's largest phased-array radar station--24-hour space surveillance satellite tracking
- Four buildings totaling over 200,000 gsf
- Uses as much power as a town of 8,000 residents



## *Preliminary Audit Findings*

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- Total of eleven potential measures identified as being worthy of further investigation
- Top five measures analyzed believed to have average payback of 6.4 years and annual savings of \$98,345



## *Feasibility Study/ Design Phase*

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- ❑ Task Order issued May 1999
- ❑ Feasibility Study delivered June 1999
- ❑ Study recommended seven ECMs
- ❑ Projected \$100,000 per year savings on Site C-6's energy bill with estimated payback of 8.5 years
- ❑ Task Order for design issued July 1999
- ❑ Design delivered September 1999



## *Construction, Installation, & Implementation*

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- Received Task Order to proceed in September 1999
- Requested bids for Mechanical and Electrical in September 1999
- Contracted project manager in October 1999
- Began construction in November 1999
- Completed \$1.2 million project in December 2000



## *ECMs Implemented*

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- Unoccupied temperature set-back
- Lighting controls and upgrades
- Chiller optimization
- Conversion of multi-zone air handling units to multi-zone variable air volume
- Primary/secondary pumping - installed variable frequency drives on two secondary chiller water pumps & pump controls
- High efficiency motors



## *Bumps in the Road*

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- Bureaucracy
- Bidding process
  - Lighting
  - Financing

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## *Progress on Other Projects*

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- Lobbied to get on Main Base
- Conducted preliminary audit of Hospital and Officers' Club
- Received a “waiting pattern” response
- Decided not to pursue further projects at this time



## *Conclusions*

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- Site C-6 project strengthened our relationship with the Eglin community
- Finding top-notch subcontractors led to success of project
- Working with the government is tough