



Homeland
Security

United States
Coast Guard



U.S. Coast Guard

**Sustainable Design
&**

Energy Conservation Programs

Captain Jim Heinz, P.E.

Facilities Design & Construction Center Atlantic



USCG Civil Engineering



Emphasis



- Increase performance, efficiency, resiliency and durability of facilities
- Evolve energy conservation and sustainable design policy and practice to meet EPCACT 2005, EO13423, EISA 2007
- **Shore Facility Energy Cost - \$79M FY08 (28% of CG Energy Budget)**
 - USCG Shore Facility Plant
 - 9000 bldgs, 15 major units account for 65% of use



Policy Evolution



- **Energy Conservation**
 - 1982-1999: various USCG Shore Facilities Energy Mgmt Manuals
- **Sustainable Design**
 - 2003: USCG joined USGBC in 2003 as corporate member
 - 2005: USCG adopted LEED™ as means of measuring sustainability
 - 2006: USCG Civil Engineering Program Goal: 2 LEED™ projects in FY06, built to LEED™ “certified” standards.
 - **2007: DHS established LEED™ as a preferred sustainable building business practice**



2008 DHS Objectives

1. Employ an integrated programming and project design process
2. Use the Whole Build Design Guide (WBDG)
3. Protect & conserve water
4. Optimize energy performance
5. Enhance indoor environmental quality
6. Reduce environmental impact of material

"to achieve these objectives, it is DHS business practice that new construction or major renovation projects strive to the max extent practicable to achieve a minimum rating "Certified" under the USGBC LEED™ Program."



Shore Energy Program & Plan



- Focus on facility energy, water and fuel conservation efforts
 - ESPC, UESC, energy efficiency projects, new construction
- Incorporate sustainable development using LEED™
- Pursue renewable energy initiatives
 - investigate the application of renewable energy technologies
 - purchase renewable energy credits
- Monitor and report energy usage
- Train, develop energy personnel



- **New Construction & Major Renovation**
 - Oct 2006 – 1st LEED building - USCG Shore Operations Building, Seattle Washington, LEED - Silver
 - 2008 - 100% of new construction planned to be min USGBC LEED "Certified"
 - Total of 11 projects through FY09, Total value \$182M
 - DHS Goal for Major Renovation – apply principles where affecting 10,000SF or \$200K.
- **Existing Buildings Operations and Maintenance (LEED EB-O&M)**
 - \$2M renovation USCG Station Emerald Isle, NC
 - \$200M annually targeting maintenance and renovation of existing buildings.
- **Homes**
 - USCG Cordova Housing Project, Cordova AK. 26 units multi-phase, multi-year.
 - USCG Upper Florida Keys Housing, Grassy Key, FL. FY09, 11 units.



Energy Saving Initiatives



- Energy Savings Performance Contract (ESPC)
 - \$15M contract for 7 West Coast units, \$33M for Kodiak
- Utility Energy Service Contract (UESC)
 - ex. E-City, NC ESPC Lighting enhancement / replacements
- Facility Efficiency Energy Funding Projects (FEEF)
 - annual budget \$2.1M for minor energy retrofit projects

**Elizabeth City, NC
ESPC Lighting
enhancement /
replacements**





Renewable Energy



- ESPCs, UESCs and FEEF projects may contain involve renewable energy.

Examples:

- CG Yard Landfill Cogeneration Plant
- TRACEN Petaluma Photovoltaic Array
- Future: TRACEN Cape May 2-2MW wind turbines



Photovoltaic Array, TRACEN, Petaluma, CA



Reporting Requirements



USCG reports quarterly to DHS on OMB Scorecards:

- Baseline and energy consumption
- Reduced energy consumption
- Renewable energy sources
- Reduction in water consumption
- Energy savings project backlog
- Energy savings projects in budget requests



Opportunities/Challenges



- Raising grass roots level efforts into full structured program
- Incorporating LEED into maintenance construction
- Developing enterprise-wide energy data system to improve DHS/OMB reporting. Includes expansion of advanced metering systems
- Coordinate & standardize our Facility Condition Inspection process to include/coincide w/ reqm't to conduct energy audits on 25% of facilities annually.
- Limited pot for Energy Efficiency Projects



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Questions?

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USCG Shore Operations Building
Seattle, Washington
\$18M, 58,000 sq ft, completed Oct 2006
LEED Silver