



Federal Utility Partnership Working Group
Spring 2012
Jekyll Island, GA

USCG Multi-site UESC in Florida

April 11, 2012

USCG: Daniel Gore, Jesse Maestas,

FPL: Ed Anderson

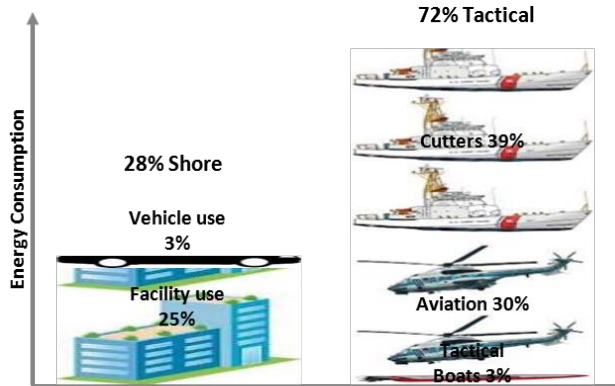
US COAST GUARD ENERGY PROGRAM PERSPECTIVE

Mr. Danny Gore

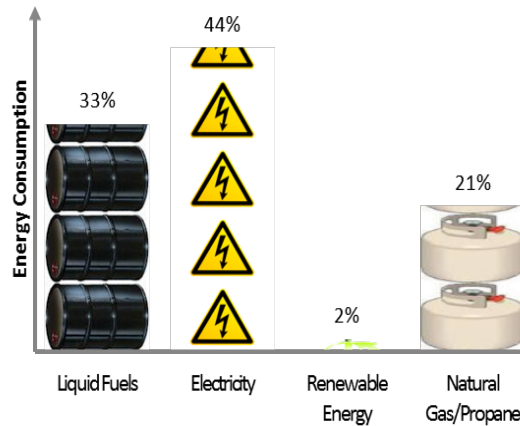
USCG Energy Program Manager

USCG ENERGY USE

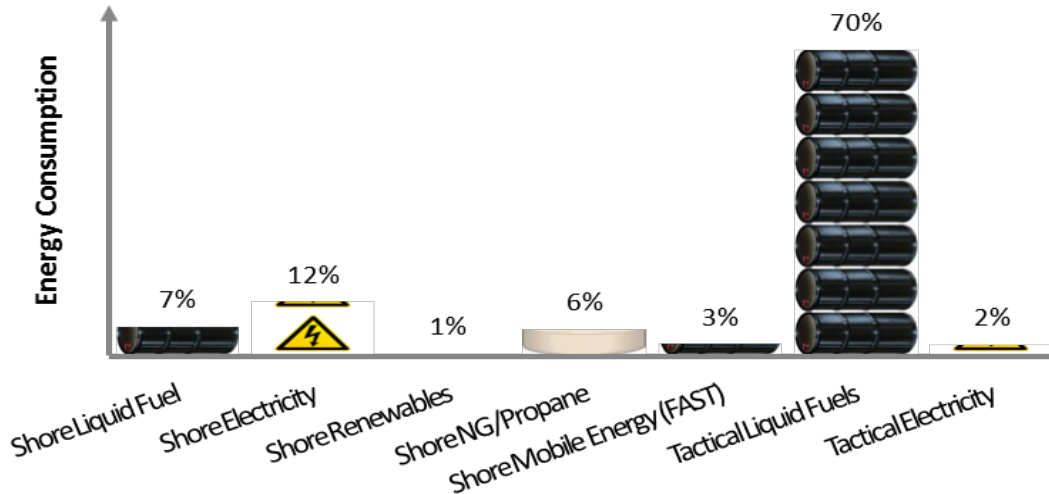
USCG Energy Use



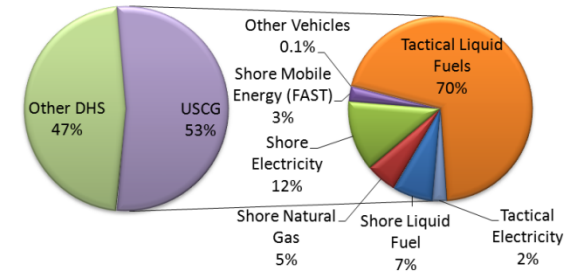
Shore Energy Sources



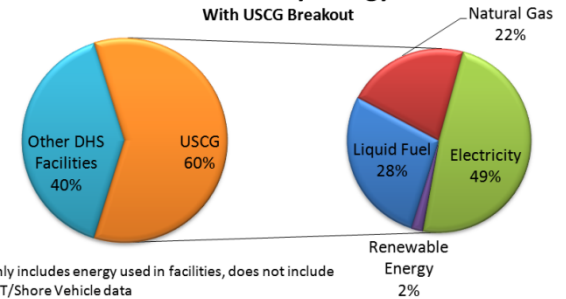
USCG Energy Sources



DHS Total Energy Use With USCG Breakout

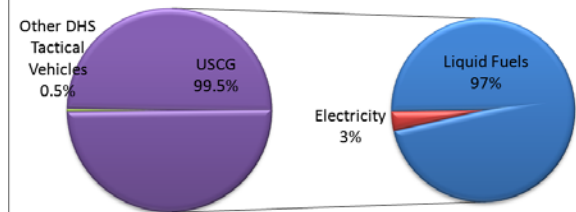


DHS Total Facility Energy Use With USCG Breakout



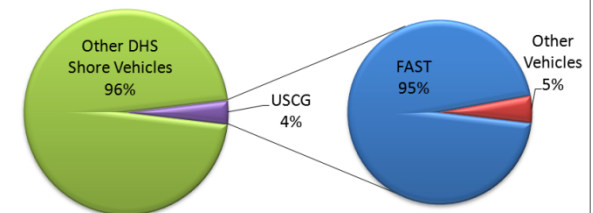
*Only includes energy used in facilities, does not include FAST/Shore Vehicle data

DHS Total Tactical Vehicle Energy Use With USCG Breakout



*Only includes energy used in Tactical Vehicles, does not include FAST/Shore Vehicle data

DHS Total Shore Vehicle Energy Use With USCG Breakout



*Includes fleet vehicle use reported in FAST as well as shore vehicle use reported with Tactical Vehicles

Shore Energy Conservation Metrics

Energy Management Requirement	Percent Change FY 2003 - FY 2011	FY 2011 Goal Target
Reduction in energy intensity in facilities subject to the NECPA/E.O. 13423 goals from FY2003 Baseline	-26.4%	18.0%

Renewable Energy Requirement	FY 2011 Percentage	FY 2011 Goal Target	Self Generated	Renewable Energy Credits
Eligible renewable electricity use as a percentage of total electricity use	-7.1%	5.0%	39.1%	60.9%

Water Intensity Reduction Requirement	FY 2011 Percentage	FY 2011 Goal Target
Reduction in potable water consumption intensity	-15.2%	8.0%

Greenhouse Gas	Scope 1	Scope 2	Scope 1 & 2	2020 CG GHG Scope 1&2 Reduction Goal	Scope 3	2020 CG GHG Scope 3 Reduction Goal
FY 2011 % Reduction from 2008 Baseline	-12.5%	-8.8%	-7.9%	25%	-39.9%	7.2%

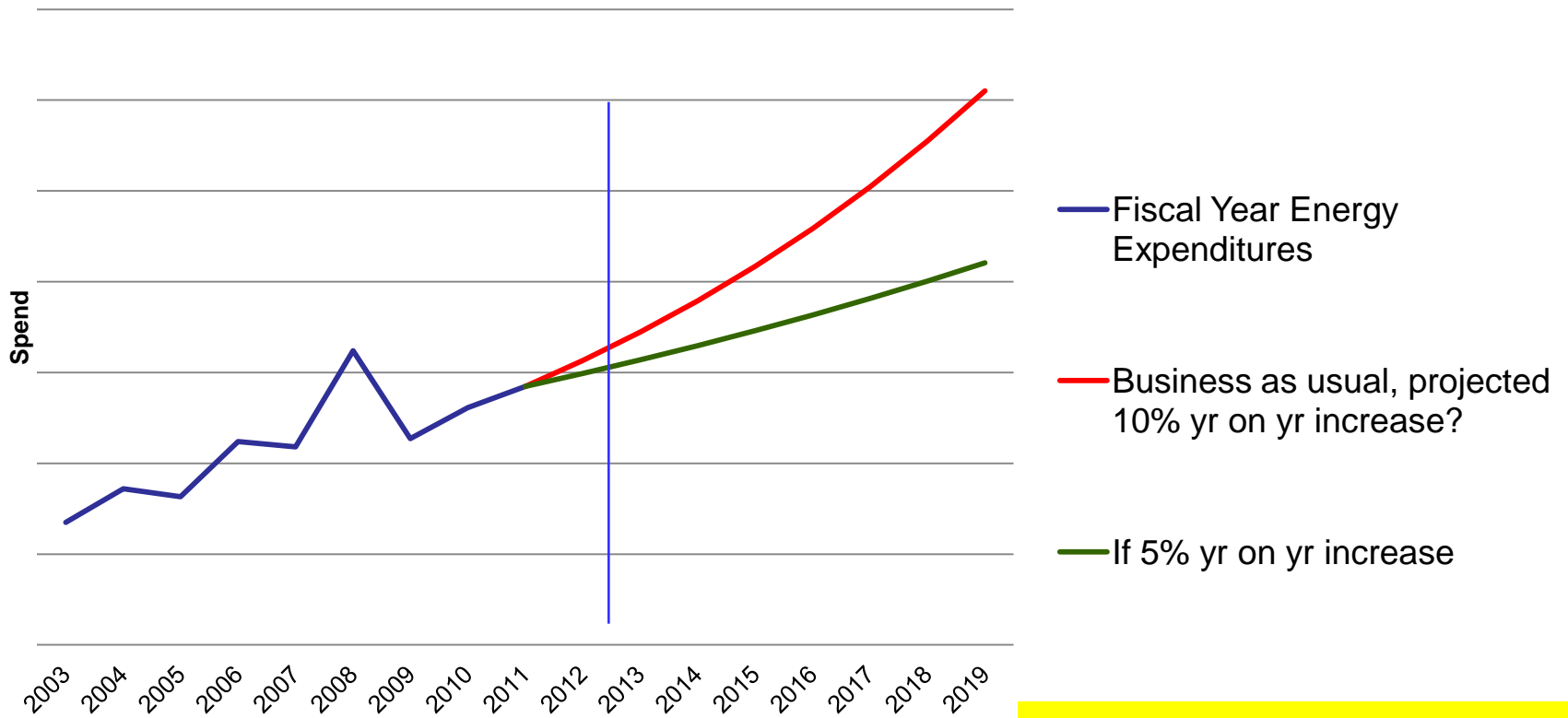


CG Alt. Financed Energy Projects

Location	Contract Type	Award Date (Fiscal Year)
CG Academy	ESPC	1998
ISC Kodiak DO1	ESPC	1998
ISC Kodiak DO2	ESPC	1999
ISC Alameda DO1	ESPC	1999
Support Center E-City DO1	ESPC	2000
ISC Boston	ESPC	2003
ISC Kodiak DO3	ESPC	2007
West Coast (9 Sites)	ESPC	2007
Support Center E-City DO2	ESPC	2007
CG Yard (Biomass)	ESPC	2008
TRACEN Cape May TO1	UESC	2008
TRACEN Petaluma (Photovoltaic)	PPA	2009
TRACEN Cape May TO2	UESC	2009
CG Academy DO2	ESPC	2009
Sector NY	ESPC	2010
TISCOM	UESC	2010
Puerto Rico (Photovoltaic)	ESPC	2011
Puerto Rico (Energy Conservation Mod)	ESPC	2011
Florida (11 Sites)	UESC	2011
Total	19	

What Happens to Ops If?

**Current Energy Spend Increase
Rate = 10% yr. on yr. avg.**



**EIA: ~\$146 / barrel in 2035 in
2010 dollars**

US COAST GUARD FLORIDA UESC PROJECT SPECIFICS

**Jesse Maestas – URS
USCG Financial Consultant**

Identifying the Next Project

Rank	Name	City	State
1	BSU Kodiak	Kodiak	AK
2	CG Yard	Baltimore	MD
3	TRACEN Cape May	Cape May	NJ
4	CG Academy	New London	CT
5	AIRSTA Cape Cod	Cape Cod	MA
6	Sector New York	Staton Island	NY
7	TRACEN Petaluma	Petaluma	CA
8	BSU Elizabeth City	Elizabeth City	NC
9	TRACEN Yorktown	Yorktown	VA
10	BSU Portsmouth	Portsmouth	VA
11	BSU Boston	Boston	MA
12	BSU Alameda	Alameda	CA
13	BSU Seattle	Seattle	WA
14	TRACEN Mobile	Mobile	AL
15	Sector San Juan	San Juan	PR
16	TISCOM	Alexandria	VA
17	BSU Miami	Miami	FL
18	AIRSTA Clearwater	Clearwater	FL
19	CG Housing Novato	Novato	CA
20	AIRSTA Sitka	Sitka	AK
21	AIRSTA Miami	Miami	FL

Why Miami?

- Existing audits
- Commitment from local command
- Interested Utility partner(s)
- Experienced acquisition team
- Use every tool available – UESC has lots of flexibility and seemed the best one for this project

Leveraging Past Experience

- Maximizing the acquisition investment
 - Expand to more than one site, but carefully
 - Have multiple go/no-go decision gates
 - Try to be as comprehensive as possible
 - Use known resources
 - Ask questions of utility partners – early and often

Lessons Learned from other Coast Guard Multi-site Energy Projects

- 9 Site West Coast ESPC (FY2007)
 - First major multi-site project
 - Vast geography (WA to CA, West to HI)
 - Inexperienced/Inconsistent Project Management Team
 - Simple ECMs
- 3 Site Sector New York ESPC (FY2010)
 - Closer proximity of sites,
 - Dedicated PM support
 - Included more complex ECMs
- 4 Site Puerto Rico ESPC (FY2011)
 - Commitment of Project Team
 - Deep retrofits (including roofing, insulation, windows)

Starting the Project

- Project Definition Document
- Roles and Responsibilities
- Discussion with key stakeholders
- Selecting sites and Utility Partners

**United States Coast Guard
Florida Power and Light UESC
Project Definition Document**

Intent: Utility Energy Services Contracts (UESCs) are complex procurements with unique authorities, multiple funding streams, which require coordination among many organizations. This Project Definition Document (PDD) defines an organizational structure for the performance of the Florida Power and Light (FPL) UESC, identifies responsibilities, and acts as a check-off list for significant milestones.

General Project Description: The Utility Energy Services Contract (UESC) impacts several Coast Guard stations within the Florida Power and Light (FPL) service area. These stations are located within the confines of CG Sector Miami (BSU Miami, AIRSTA Miami, Station Lake Worth Inlet, Station Fort Lauderdale, COMMSTA Miami, MSST Miami, ESDD Jupiter Light, CEU Miami, Richmond Heights Bldg), Sector Jacksonville (Station Port Canaveral), and Sector St. Petersburg (Station Cortez, Station Ft. Myers). Energy Conservation Measure (ECM) Technical Categories (TCs) include the following:

Base Project

Technical Category (TC)	ECM Number	TC Title	ECM Title
TC 1	1.1	Boiler Plant Improvements	Boiler Tank Insulation; BSU Building #3
	1.2		Install New Boiler; ARSTA Building #103
TC 3	3.1	Building Automation Systems	Install Programmable Thermostats; All Locations
	4.1		Fine Coil Unit Installation; ARSTA Building #103
TC 4	4.2	Heating, Ventilation and Air Conditioning	Insulate Chilled Water Line; ARSTA Building #160
	4.3		Repair Outside Air; ARSTA Buildings #111 and 190
	4.5		Close Cool of Line; Station Lake Worth
	4.7		Replace aged inefficient DX Units; COMMSTA and ARSTA
	4.8		HVAC Upgrades for Humidity Control; MSST
	4.9		Upgrade Sterling Road HVAC; Station Ft Myers
	4.10		PTAC installation and repair; Station Ft Lauderdale
	5.1		Lighting Improvements
TC 5	5.2	Lighting Improvements	Install Lighting Controls; All Locations
	6.1		Install Cool Roofs; ARSTA and BSU
TC 6	6.2	Building Envelope Modification	Replace and Insulate Roofs; ARSTA
	6.3		Replace and Insulate Roofs; Ft Lauderdale
	6.4		Window Upgrades; ARSTA, St Ft Lauderdale and Ft Myers
TC 8	8.1	Electric Motors and Drive	Chiller Plant VFD Pumping; ARSTA Buildings #103 and #113
TC 13	13.1	Water and Sewer Conservation	Water and Sewer Conservation; All Locations
TC 15	15.1	Rate Adjustments	Participate in FPL's On-Call Program
TC 19	19.1	Energy Awareness	Solar PV Educational Message Board; ARSTA

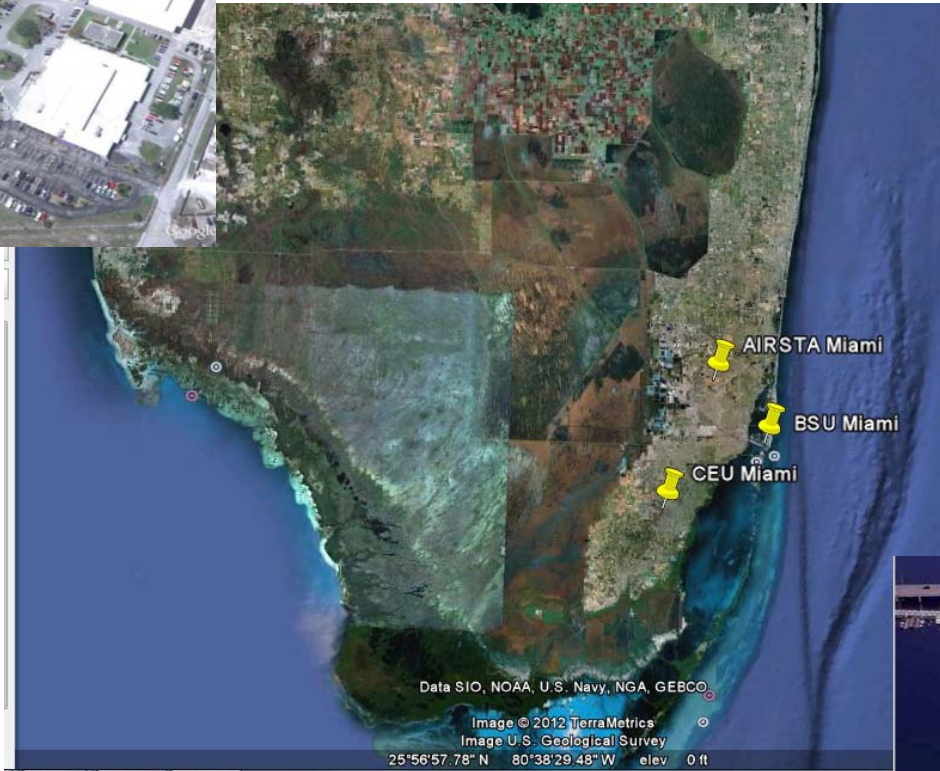
Option Items

Option Number	Description
1	Repair and installation of cool roof on Bldg 2 at BSU Miami
2	Repair and installation of cool roof on Bldg 4 at BSU Miami

The Coast Guard Facilities impacted by the implementation of this project will have responsibility for any non-warranty related O&M/R throughout the duration of this task order. CEU Miami will manage this Task Order throughout the full performance period.

FL UESC Project Definition Document (Updated 9/20/11) Page 1 of 3



Initial Locations



Checking Project Development

- PA ECM Review
 - Does this make sense
 - Will it help the CG
- Estimated Results
 - ~21% reduction in electricity consumption
 - ~15% reduction in water
 - 10 yr SPB

Preliminary Assessment
 United States Coast Guard
 District 7
 January 14, 2011

Submitted by:
FPL
 6001 Village Blvd.
 Palm Beach, FL 33407-0768

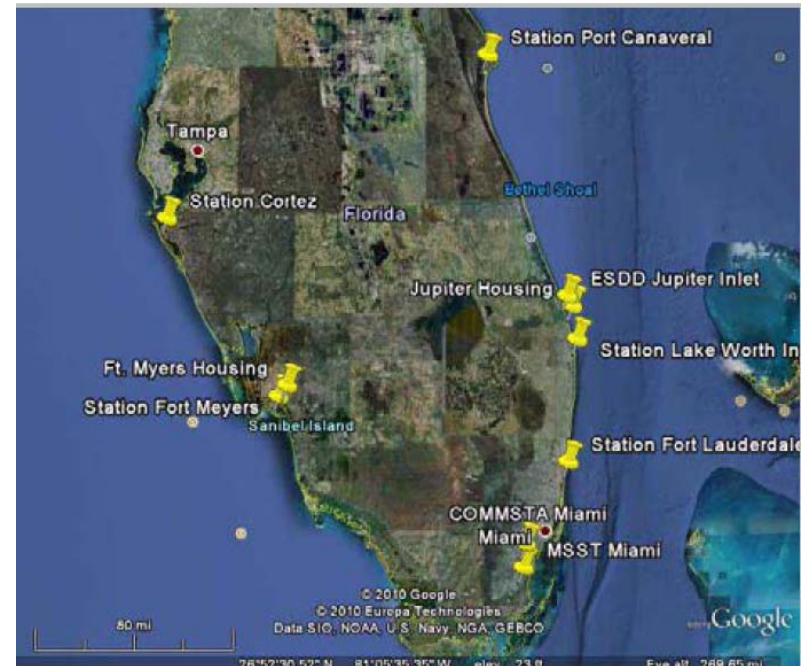
Technical Category	ECM	ECM Title
TC.1	ECM 1.1	Boiler Tank Insulation; BSU Building 3
TC.3	ECM 3.1	HVAC Night Setback Controls; BSU/AIRSTA
TC.4	ECM 4.1	Fan Coil Unit Insulation; AIRSTA Building 103
	ECM 4.2	Cooling Tower Replacement, AIRSTA
	ECM 4.3	Repair Outside Air, AIRSTA Building 160
TC.5	ECM 5.1	High Efficiency Lamp and Fixture Replacement; BSU/AIRSTA
	ECM 5.2	Automated Lighting Controls; BSU/AIRSTA (traditional)
TC.6	ECM 6.1	Cool Roof Installation; BSU Building 3 and 6
	ECM 6.2	High E Window Replacements; BSU Building 4
TC.8	ECM 8.1	Chiller Plant Distribution VFD Pumping; AIRSTA
TC.11	ECM 11.1	Solar PV; AIRSTA Building 113
	ECM 11.2	Solar Thermal Boiler Preheat; BSU Building 3
TC.13	ECM 13.1	Low Flow Faucets, Showerheads, and Plumbing; BSU/AIRSTA
TC.15	ECM 15.1	Future Rate Options
TC.16	ECM 16.1	Compressed Air System Controls Upgrades; BSU/AIRSTA

Coast Guard History of Using Multiple Funding Sources for Energy Projects

- Sector New York ESPC (FY2010)
 - First mixed financed/capital contribution project
 - Capital contribution lowered long-term O&M burden
- Puerto Rico ESPC (FY2011)
 - Long-term maintenance issues addressed
 - Back-log items pulled into project (i.e. capital contribution)
 - Energy savings from additional ECMs allowed for a more comprehensive project

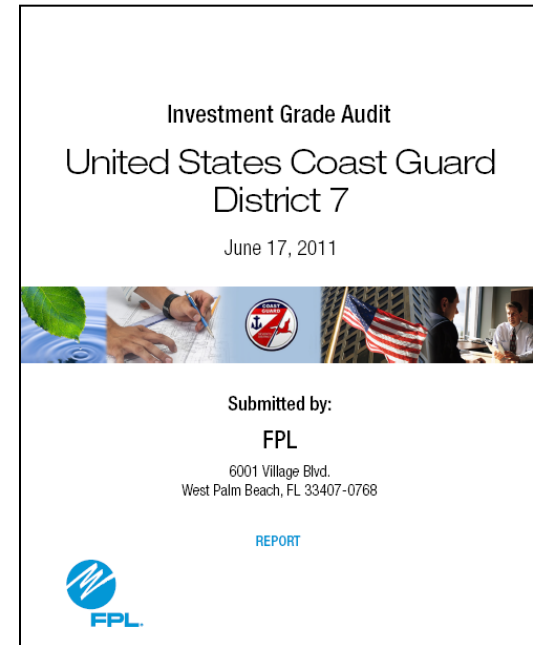
Enhancing and Expanding the Project

- Add maintenance backlog items (2 roofs at AIRSTA)
 - Lesson learned from other project awarded 12/17/10
- Added 8 more locations
 - Not every site within the service territory was included



Refine the Project

- IGA Review identified additional opportunities
 - Additional backlog items
 - Roofs (2 Roofs at BSU Miami)
 - HVAC (Ft. Lauderdale, Ft. Meyers)
- Tailor to Site Needs
 - ECM scaled to site and O&M resources
 - Performance assurance



Final Energy Conservation Measures

Technical Category (TC)	ECM Number	TC Title	ECM Title
TC.1	1.1	Boiler Plant Improvements	Boiler Tank Insulation; BSU Building #3
	1.2		Install New Boiler; AIRSTA Building #103*
TC.3	3.1	Building Automation Systems	Install Programmable Thermostats; All Locations
TC.4	4.1	Heating, Ventilation and Air Conditioning	Fan Coil Unit Insulation; AIRSTA Building #103
	4.2		Insulate Chilled Water Line; AIRSTA Building #160
	4.3		Repair Outside Air; AIRSTA Buildings #111 and 160
	4.5		Clean Cool of Lime; Station Lake Worth
	4.7		Replace Aged Inefficient DX Units; COMMSTA and AIRSTA
	4.8		HVAC Upgrades for Humidity Control; MSST
	4.9		Upgrade Berthing Room HVAC; Station Ft Myers
	4.10		PTAC installation and repair; Station Ft Lauderdale
TC.5	5.1	Lighting Improvements	High Efficiency Lamp and Fixture Replacement; All Locations
	5.2		Install Lighting Controls; All Location
TC.6	6.1	Building Envelope Modification	Install Cool Roofs; AIRSTA and BSU
	6.2		Replace and Insulate Roofs; AIRSTA
	6.3		Replace and insulate Roofs; Ft Lauderdale
	6.4		Window Upgrades; AIRSTA, St Ft Lauderdale and Ft Myers
TC.8	8.1	Electric Motors and Drive	Chiller Plant VFD Pumping; AIRSTA Buildings #103 and #113
TC.13	13.1	Water and Sewer Conservation	Water and Sewer Conservation; All Locations
TC.15	15.1	Rate Adjustments	Participate n FPL's On-Call Program
TC.19	19.1	Energy Awareness	Solar PV Educational Message Board; AIRSTA

Project Results

- Annual Reduction
 - Electricity Demand - 475 kW
 - Electricity Consumption - 3,100,000 kWh (19.1%)
 - Diesel - 260 Gal
 - Natural Gas - 775 Therms (21.1%)
 - Water - 12,750 kGal (64.2%)
 - Sewer - 2,000 kGal

Financial Summary

- \$6M total Capital Investment
- Capital Contributions
 - \$1M – Civil Engineering Program
 - \$550K – Energy Program
- 12 yr finance term
- 2% energy escalation rate
- 2.91% interest rate
- Includes commissioning and performance assurance activities
- Internal USCG estimate >\$500K positive NPV

Major Challenges

- Workload
 - Several major other projects were underway at same time (ESPC, UESC, RESA, ARRA, etc.)
- Location selection
 - When to stop adding sites
- How to bring in backlog projects
 - Internal policies, including/excluding from other projects
- End of FY challenges

Recommendations

- Incorporate Lessons Learned into new projects
 - Prior failures sometimes teach more than successes
- Be flexible
- Be ambitious (we could have done more)
- Work with Utility as Partner
- Be nice to your contracting officer and legal counsel

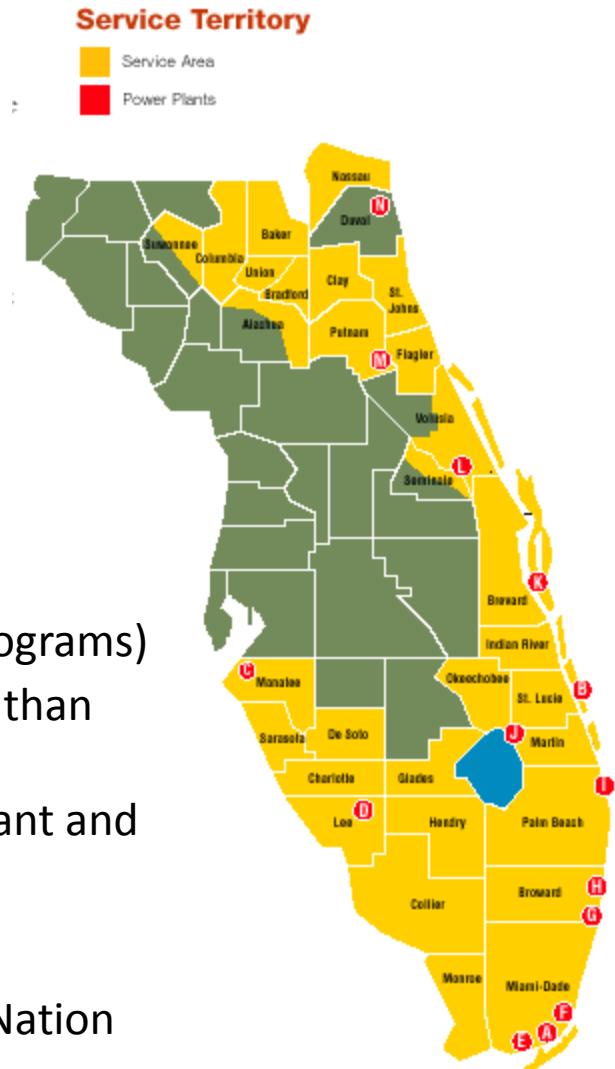
FPL PERSPECTIVE

Ed Anderson

FPL – UESC Federal Sales Manager

FPL Fun Facts

- Part of the NextEra Energy family
 - NextEra Energy Resources
 - NextEra Energy Solutions
 - GEXA
 - FPL (Utility)
- 3rd largest investor-owned utility
 - Typically #1 or 2 in Energy Efficiency (DSM programs)
 - Lowest Electric Rates in the State (25% lower than National Average)
 - In 2010, commissioned Nation's largest PV plant and the first solar preheat fossil plant.
- Completed 48 UESC projects since 1995
 - First Basic Ordering Agreement (BOA) in the Nation
 - Seven different agencies



Project Tidbits

- 11 sites
 - Encompassing ~400 miles
 - 42 Buildings
 - 33 Electric Meters/Accounts
 - 4.1 mW Peak Demand
 - ~\$1.5 m Annual Electric Costs
- 21 ECMs
 - 9 Technical Categories
 - Demand Response
 - Energy Awareness
- First experience with USCG and KO

United States Coast Guard					
Acct Nu.	Address	City	\$/yr	kWh/yr	kWd
8630205287	9235 GROUPE RD	CAPE CANAVERAL	\$137,442	1852680	473
8265436926	4530 124TH STREET CT W # CREW	CORTEZ	\$23,284	331560	72
2882649490	8750 GLADIOLUS DR # 10	FORT MYERS	\$10,154	132786	42
4231836430	719 SAN CARLOS BLVD	FORT MYERS BEACH	\$35,098	478920	110
4233832494	719 OLD SAN CARLOS BLVD	FORT MYERS BEACH	\$13,806	176658	70
6699346398	601 SEABREEZE BLVD	FT LAUDERDALE	\$1,528	15854	0
4169978444	15466 NW 77TH CT	HOMESTEAD	\$3,082	33822	0
8489858632	7500 N OCEAN DR	HOLLYWOOD	\$54,428	733200	140
3944028210	SE FEDERAL HWY # LORAN A C STA 2	JUPITER	\$43,448	625800	120
4500283264	N US HIGHWAY 1 #JP CG POST EX	JUPITER	\$10,952	138666	38
1290726429	N US HIGHWAY 1 # COAST GUARD	JUPITER	\$1,275	13033	0
1298725431	N US HIGHWAY 1 # JUP LITE STATION	JUPITER	\$4,052	44023	0
3175618234	103 HOXEY RD #USCG HANGER	MIAMI	\$205,456	2892000	592
5190571900	SW 123 AVE & 152 ST #6D SH	MIAMI	\$1,939	20835	0
6886455267	18867 S DIXIE HWY	MIAMI	\$1,407	14785	0
7164573961	15403 SW 123RD AVE	MIAMI	\$4,758	54565	19
7165571998	15403 SW 123RD AVE # POOL	MIAMI	\$7,990	98035	21
8607059022	15608 SW 117TH AVE # BLDG C-3I	MIAMI	\$94,628	1355520	214
8179578912	15420 SW 120TH AVE # OFFICE	MIAMI	\$4,713	52357	0
3667101285	15298 SW 121ST AVE # CG	MIAMI	\$9,956	131417	34
6788377841	RICHMOND NAS #RADIO	MIAMI	\$27,159	373480	73
6783370817	RICHMOND NAS #OFFICE	MIAMI	\$13,414	175020	53
1206100479	15420 SW 120TH AVE #TENN	MIAMI	\$2,804	30667	0
4437698360	103 HOXEY RD #BLDG 110	MIAMI	\$6,476	83692	30
7513173398	100 MACARTHUR CSWY	MIAMI BEACH	\$424,409	5970000	1234
6268263412	USCG AIR STATION FUEL	OPA LOCKA	\$8,597	93480	42
6635888545	14501 NW 46TH AVE #RADAR	OPA LOCKA	\$2,082	22077	0
8907775780	OPA LOCKA #BLDG 113	OPA LOCKA	\$150,982	2071920	385
8908771705	OPA LOCKA #BLDG 110	OPA LOCKA	\$24,588	323520	76
8913778737	OPA LOCKA #BLDG 110	OPA LOCKA	\$43,524	553680	131
8914776763	OPA LOCKA #BLDG 110 E	OPA LOCKA	\$1,611	16808	0
820643740	1101 10TH ST	SARASOTA	\$1,883	19500	25
9661857038	3300 LAKE SHORE DR	WEST PALM BEACH	\$36,106	512640	97
TOTAL			\$1,413,033	19,443,000	4,091

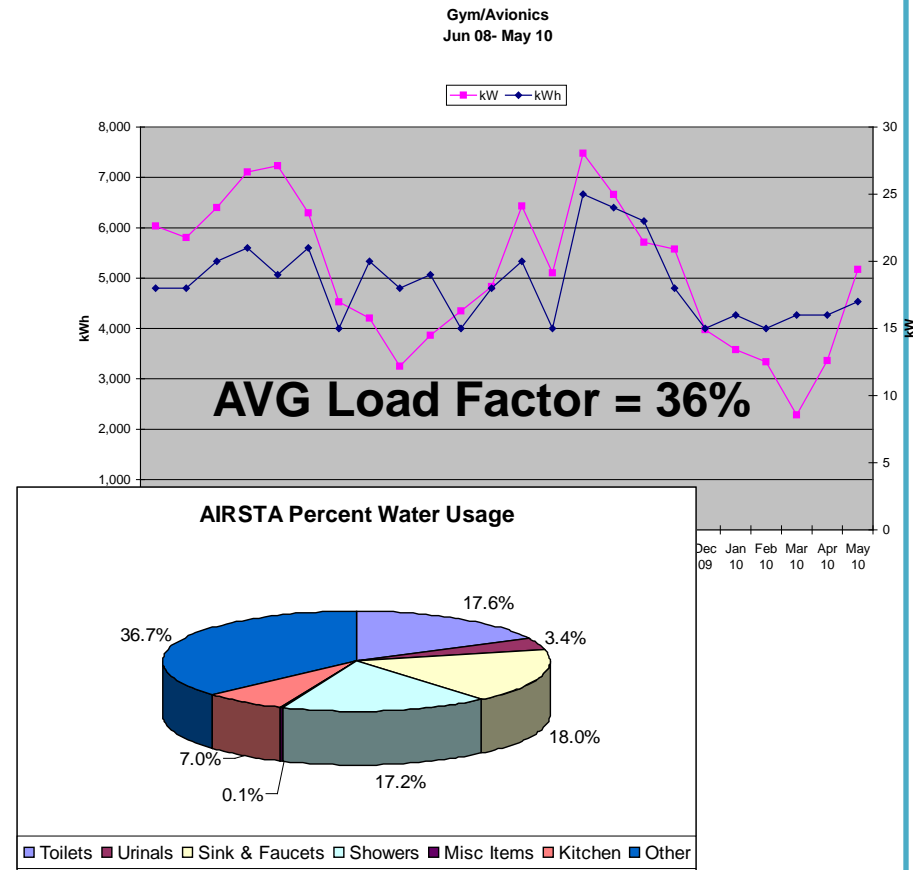
Project ECM Details

- Comprehensive Energy and Water
 - HVAC
 - Lighting
 - Building Envelope
 - Controls
 - Demand Response
 - Energy Awareness
 - VFD Pumping
 - Water and Sewer
- FPL Incentives
 - Lighting
 - Building Envelope

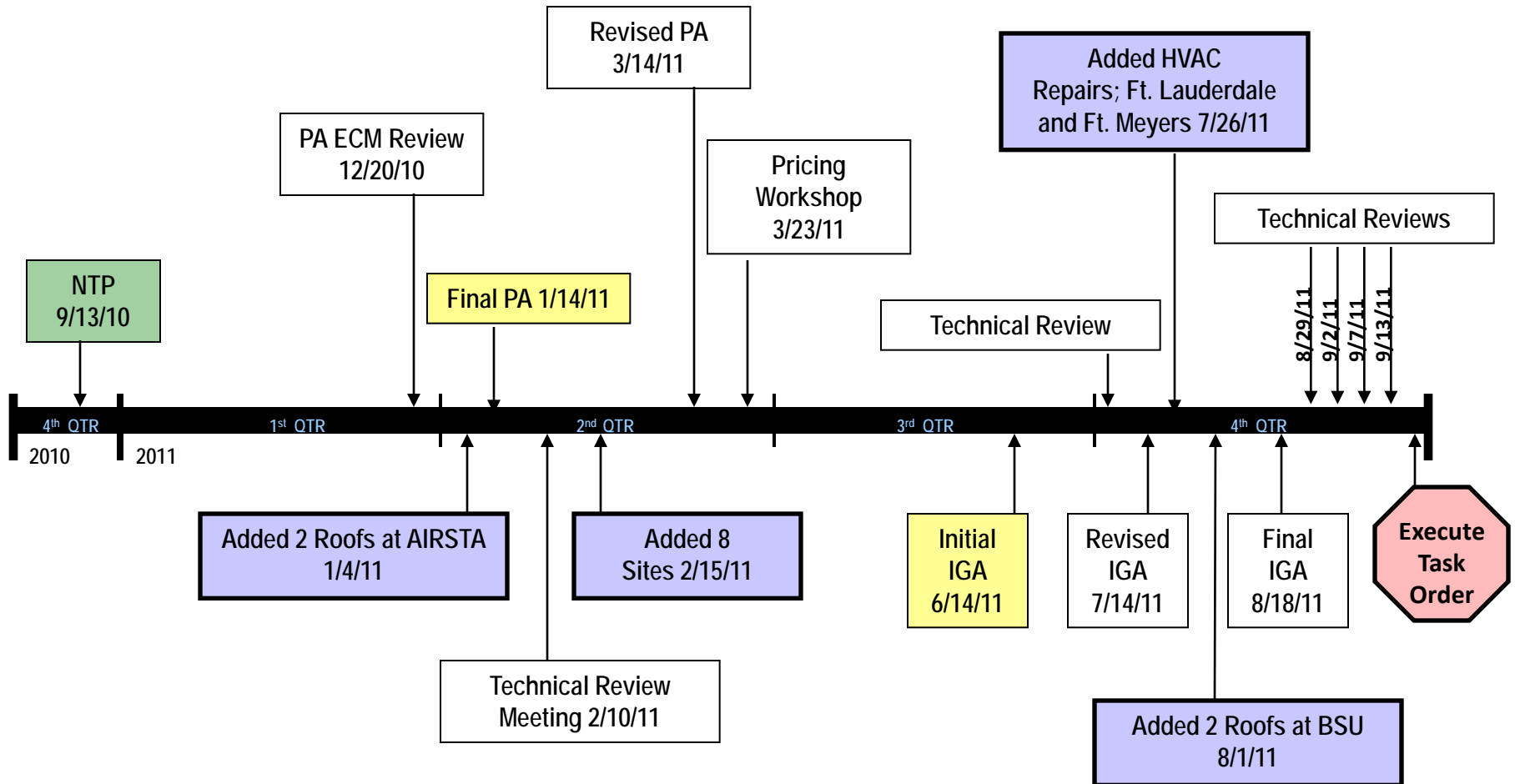


Development Process

- No Cost / No Obligation Preliminary Assessment (PA)
 - Existing conditions
 - Rate analysis
 - Preliminary list of ECMs
 - No cost information included
- Technical Review/Resolution
- Pricing Workshop
 - ECM Economic Evaluations
 - Identifies final scope
- Investment Grade Audit (IGA)
 - Subcontractor Competition
- Technical Review/Resolution
- Compete Financing
- Execute Delivery Order



Development Schedule



Development Hurdles (1 of 2)

- Multiple Sites



- Multiple owner/operators
- Different energy/water providers and rates
 - Obtaining Water Histories/Rates
- Complex data collection organization and analysis
- Fewer subcontractor options
- Davis-Bacon Wages
- Cost Containment (CM and PM)

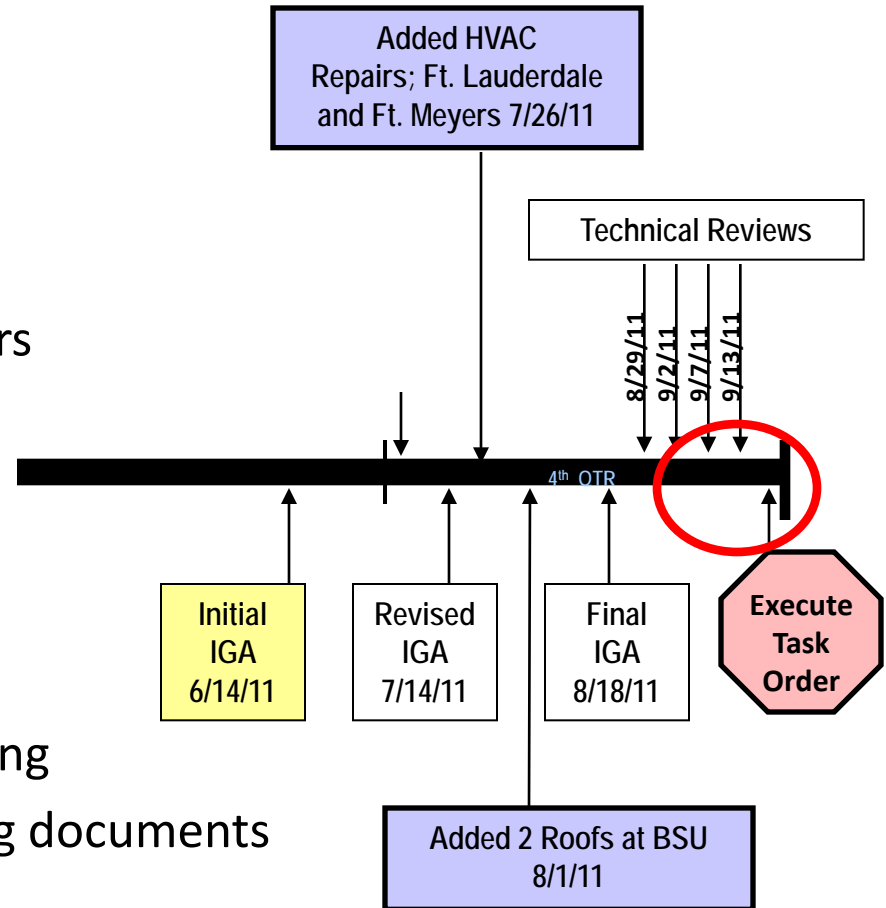
Development Hurdles (2 of 2)

- Scope Increases

- Managing additional data
- Analysis overlap
- Re-engaging Subcontractors
- Impacts to schedule
- Cost containment

- USCG Additional Funds

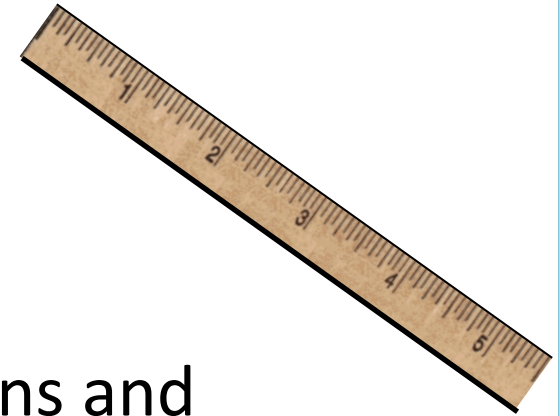
- Mods to competed financing
- Mods to required financing documents



Financing Details

- Initial discussions with 4 onboard lenders (June)
- Downsize through competition to 2 (Early Sept)
 - Firm rates with a lock period
 - Underlying index if closed outside lock period
- Final competition based on project specifics (Mid-Sept)
 - Escrow basis only (not hedge)
 - Selection based on rate and ability to close quickly
- Preparation and execution of documents
 - Task Order
 - Loan Documents
 - Authorization of Signature
 - GSA Areawide Exhibit
- Execute (Sept 30th)

FPL Recommendations



- Understand Customer Expectations and Processes In Detail and Upfront
 - Develop professional and trusting relationship
- Don't Push the Development Schedule
 - Plan for revisits and extra reviews
 - Better to be early than late (accuracy is important)
- Be Flexible Throughout Development Process
 - Include Subcontractors and Financiers
 - Expect change
- Prepare and Review Execution Documents Early
 - Task Order
 - Loan Documents

Contacts

Daniel Gore
US Coast Guard Energy Program Manager
daniel.j.gore@uscg.mil
202.475.5576

Jesse Maestas
Financial Analyst, Contract Support to USCG
jesse.l.maestas@uscg.mil
303.740.3976

Ed Anderson
UESC Federal Sales Manager
Ed.a.anderson@fpl.com
321-626-1010