

FEDERAL UTILITY PARTNERSHIP WORKING GROUP MEETING
NOVEMBER 28-29, 2007
SAN DIEGO, CALIFORNIA
HOSTED BY: SAN DIEGO GAS AND ELECTRIC

INTRODUCTION

The Federal Utility Partnership Working Group (FUPWG) held its Fall 2007 meeting in San Diego, California on November 28-29. The meeting was hosted by San Diego Gas and Electric (SDG&E) and was held at the Holiday Inn on the Bay. A total of 123 individuals attended the meeting, including at least 11 new members. Organizations represented included 48 utility officials, 6 Federal Energy Management Program (FEMP) representatives, 40 federal agency representatives, 8 national laboratory representatives, and 21 representatives from energy-related organizations. The working group is a joint effort between FEMP and the utility industry to stimulate the exchange of information among participants and foster energy efficiency projects in federal facilities nationwide.

The agenda included the following presentations:

- SDG&E Welcome
- FEMP Welcome and Washington Update
- Edison Electric Institute Partnership
- SDG&E Success Story: Camp Pendleton
- Enabling Documents Update
- Facilitated Group Discussions: “Breaking Down the Barriers”
- Computing and Data Center Panel
- Agency Updates: National Park Service and U.S. Coast Guard
- Spectrally-Enhanced Lighting

All presentations from the FUPWG San Diego meeting are available on the FEMP Web site at: http://www1.eere.energy.gov/femp/financing/uescs_sandiegoagenda.html

DAY 1 – WEDNESDAY, NOVEMBER 28, 2007

WELCOMING REMARKS

Rick Morrow, San Diego Gas and Electric (SDG&E)

As Vice President of Customer Service – Major Markets, Rick Morrow welcomed FUPWG attendees. His presentation focused on the use of liquefied natural gas (LNG), but also discussed the recent efforts to battle the San Diego firestorms.

Mr. Morrow discussed the benefits and gave an overview of the significance of LNG as a way to decrease energy cost due to increased LNG supply base. Current projects include Oceanview Secure Energy, Clearwater Port, and the Energia Costa Azul Terminal. For more on SDG&E's current initiatives, please visit <http://www.sdge.com/>.

To view Mr. Morrow's presentation, please visit:
http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_morrow.pdf

FEMP WELCOME AND WASHINGTON UPDATE

David McAndrew, Chair of FUPWG, FEMP, Department of Energy (DOE)

David McAndrew welcomed new and current members to the FUPWG meeting. He is FEMP's Project Lead for Utility Energy Service Contracts (UESC) and State Energy Efficiency Incentive Programs and is responsible for technical review and approval of energy contracts and regulatory actions at DOE facilities.

Mr. McAndrew provided participants with an update on administration policy and Congressional initiatives.

- FEMP Personnel Changes
 - Scott Richlen is currently serving as acting FEMP Program Manager
 - Two Presidential Management Fellows: Matt Gray and Amanda Sahl
- FEMP Updates
 - The White House Council on Environmental Quality has issued a memo directing federal agencies to significantly increase their use of Energy Saving Performance Contracts (ESPCs) and UESCs. To view the memo, please visit: http://www1.eere.energy.gov/femp/pdfs/espc_memorandum.pdf.
 - The ESPC recompetes will close December 10, 2007.
 - FEMP continues to be a priority program within the Office of Energy Efficiency and Renewable Energy (EERE) with additional funding provided in fiscal year (FY) 2007 and an increase in funding planned for FY 2008.
- FEMP FY 2008 Priorities
 - TEAM (Transformational Energy Action Management) Initiative was announced to help DOE "lead by example" in energy efficiency, renewable energy use, and fleet use of alternative fuels.

- Use of private sector financing through UESCs, PPAs (power purchase agreements), and EULs (enhanced-use leases) are preferred methods to meet energy goals.
- Renewable energy use, with emphasis on solar energy and renewable energy credits, is strongly recommended.
- EERE would like to build a better relationship with the Department of Defense (DOD) to help align energy goals for their facilities.
- Opportunities are available for partnership with Hawaii Clean Energy and the National Park Service to increase federal energy efficiency.
- Several 2007 FEMP Energy and Water Management Award winners included projects utilizing UESCs. SDG&E and Navy had several awards.
- Legislative Updates
 - For federal facilities, Title IX of H.R. 3221 requires:
 - Recommissioning and retrocommissioning
 - ECMs (energy conservation measures) with a simple payback of 12 years or less
 - Plans for proper operation and maintenance (O&M) during operation and provision for measurement and verification (M&V) for energy savings
 - Development of a public Web-based tracking of audits and ECM implementation
 - Development of a public building benchmarking system
- Utility Program Strategic Action Plan (SAP) Updates and Status
 - The SAP is composed of four thrust areas: Partnership Building, Direct Assistance, Marketing and Communication, and UESC Data Collection and Analysis
 - Partnership Building – Recent key strategic meetings to increase utility partnerships and UESC implementation includes events such as:
 - Workshop in conjunction with the New York State Energy Research and Development Authority to educate federal customers on utility services; held in New York City in March 2007
 - Meeting with Assistant Secretary Andy Karsner at GovEnergy to establish dialogue between FUPWG Utility Partners and senior EERE management; held in New Orleans, Louisiana in August 2007
 - Meeting with Edison Electric Institute (EEI) to revive relationship with FUPWG; held in October 2007; prompted on-site meeting between EEI and utility members at this FUPWG meeting
 - Direct Assistance – Recent work to increase direct project assistance includes:
 - Outreach and education to new utility partners such as Atmos Energy, Pacific Gas and Electric, Tennessee Valley Authority (TVA), South Jersey Gas, and Westar
 - Increased customer support and strategic partnership with existing utility partners
 - Marketing and Communication – New marketing and communications tools have been developed and improved. These tools include new case studies, overview fact sheets, resource documents briefing books, revised Enabling Documents guide, new UESC video, and an updated Web site.

- UESC Data Collection and Analysis – The UESC data collection process is currently being revised and streamlined to standardize the process.
 - Currently in the process of transferring data collection activities to Energetics Incorporated
 - Addressing concerns regarding confidentiality
 - Would like to use the data to help agencies meet their reporting requirements
- Utility Program FY 2008 Plans
 - UESC workshops – UESC Air Force workshop in Albuquerque, New Mexico (February); general workshops in Dallas, Texas (April) and Washington, D.C (June)
 - Spring 2008 FUPWG Meeting hosted by Gulf Power in Sandestin, Florida, April 15-17, 2008
 - GovEnergy 2008 will be held August 3-6 in Phoenix, Arizona
- Presentation of gift certificate to Ed Thibodo of the Navy in recognition of his helpfulness at the Spring 2007 FUPWG Meeting

To view Mr. McAndrew's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_mcandrew.pdf

EDISON ELECTRIC INSTITUTE (EEI)

Steve Kiesner, Edison Electric Institute

Steve Kiesner serves as Director, National Customer Markets for Edison Electric Institute. His presentation highlighted:

- The current state of the electric utility industry by describing the challenge to balance the core drivers. He describes the core drivers as being: 1. rising costs and prices, 2. large capital expenditures, 3. climate change, and 4. energy efficiency
- The need for technology advancements to decrease carbon dioxide emissions such as smart grids, end-use efficiency and demand response, distributed generation, plug-in hybrid electric vehicles, renewable energy, expansion of nuclear energy, and new commercial scale coal-based generation units
- The need for an overall intensified national commitment to energy efficiency, which closely aligns with the significance of utility partnerships and services

To view Mr. Kiesner's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_kiesner.pdf

SUCCESS STORY: SDG&E AND CAMP PENDLETON

Karen Jackson, SDG&E

Ed Thibodo, Naval Facilities Engineering Command Southwest (NAVFAC SW)

Karen Jackson and Ed Thibodo presented a successful partnership between SDG&E and Camp Pendleton, California. They completed a co-generation project at Balboa Naval Medical Center from December 2001 through April 2004. For this project:

- The construction cost \$14.8 million and had an energy savings of \$1.6 million per year
- Had a basic buy down of \$6,838,000 and basic financed value of \$9,231,885
- An interest rate of 9.24% was negotiated with an option to buy out contract with no penalty
- Payback comes to about 9.98 years
- Utilized:
 - A 4.5 MW Solar Centaur 50
 - A heat recovery steam generator
 - New controls, switchgear, gas line, and a new diesel fuel purifier and filter system

To view Ms. Jackson and Mr. Thibodo's joint presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_jackson.pdf

ENABLING DOCUMENTS UPDATE

Deb Beattie and Karen Thomas, National Renewable Energy Laboratory (NREL)

Deb Beattie and Karen Thomas presented an overview of the Enabling Documents. The presentation included a discussion of what is included in this document, such as the enabling legislation, legal opinions, agency guidance, contracts, sample documents, and key resources. Key points included:

- Language from enabling legislation such as the Energy Policy Act of 1992, Executive Order 13423, authorization of the General Services Administration to issue areawide contracts, and the National Defense Authorization Act of 2007
- Legal opinions and agency guidance statements demonstrate that UESCs and utility services are encouraged and are viable options for achieving agency energy efficiency goals
- The UESC model agreement is pending final review and approval
- Sample documents and lessons learned documents are available for the various contracts

To view Ms. Thomas and Ms. Beattie's joint presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_thomas.pdf

FACILITATED GROUP DISCUSSIONS "BREAKING DOWN THE BARRIERS"

Julia Kelley, Oak Ridge National Laboratory (ORNL)

Julia Kelley presented the purpose and objective of the facilitated group discussions and directed participants to their respective rooms and groups. These group discussions provide a forum for individual discussion as well as the opportunity to explore issues and ideas for improving the effectiveness of UESC project implementation. The following questions were discussed:

1. Are any key “barriers” to UESC project development and execution missing from the list below?
2. What do you see as the “top four” barriers that FUPWG could take steps to address now?
3. For your “top four” barriers, what steps do you recommend FUPWG take to “break down” that barrier? What can we do together to wipe out these barriers?
4. As time allows, suggest recommended steps for mitigating other barriers.

The listed barriers are:

- Regulated utilities do not see these services as core business
- New technologies
- Political environment
- Risk perception of all stakeholders
- Lack of incentive for utilities to participate
- Lack of priority for energy conservation
- Lack of savings retention
- Lack of understanding of UESC benefits
- General lack of awareness
- Red tape
- Upper management lack of support
- Ten-year limit
- How much can I accomplish with the resources I have?
- Some utilities have small federal customer base, if you don't have a big federal site base, you don't have a big incentive
- No way for utilities to help sites that are outside their service territory
- Variety of contract vehicles – everyone wants something a little different
- Concern that ESPC/UESC annual payments will become too large

Results of the group discussions are summarized below.

Although all listed barriers are important and were addressed, the most consistent and significant discussed barriers included:

- Regulated utilities do not see these services as core business
- Political environment
- Lack of incentive for utilities to participate
- Lack of understanding of UESC benefits
- General lack of awareness
- Red tape
- Upper management lack of support
- Ten-year limit

Barriers that were discussed as missing from the list include:

- Financing and legal contracting issues
- Agencies' inability to retain rebates

- Unacceptable debt amounts
- Non-standard process for initiation of projects
- Distinguishing between facility repairs and genuine energy conservation measures
- Lack of adequate process to monitor, measure, and report results (measurement and verification)

Solutions and recommendations for mitigating all barriers include:

- Increase education and awareness; a strong message from the federal government would help inform utility upper-management
- Increase and improve training opportunities and utilize more direct technical/legal assistance for project implementation
- FEMP or FUPWG Center of Expertise
- Develop a financial business case for utilities
- Develop a “How To” guidebook on facilitating project implementation
- Clarify the scope of measures on the Web site and in the guidebook

COMPUTING AND DATA CENTER PANEL

Will Lintner, Department of Energy
Larry Mainers, Subzero Engineering
Charles Wise, Verdiem

Will Linter, as the lead of this panel, gave an overview of the energy intensive growth of data centers and what DOE is doing to address this issue. FEMP’s plans for FY 2008 include assessments of DOE data centers, training, agency partnership, development of case studies and best practices, and sponsorship of a data center track at the Labs21 Annual Conference in September 2008. Larry Mainers and Charles Wise gave presentations addressing what their respective companies are doing to address energy efficiency of data centers.

To view Mr. Lintner’s presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_lintner.pdf

Mr. Mainer’s presentation demonstrated how cooling energy solutions can be implemented to reduce energy use in data centers. Subzero focuses in computer modeling and computational fluid dynamics (CFD) to address data center energy efficiency. He mentioned that CFD modeling:

- Allows for a comprehensive view of the data center cooling arrangement
 - Both existing and proposed
- Helps to mitigate improper data center layout, which addresses:
 - Legacy data centers
 - Unusual room sizes, such as small subfloor depths, low pressure subfloors, poor unit location, improper hot/cold aisle separation
- Allows you to “try before you buy”
 - Experience the true effectiveness of proposed solutions
 - Obtain the biggest gain per dollar spent

To view Mr. Mainers presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_mainers.pdf

Mr. Wise's presentation explored various approaches to IT energy management, namely network energy management solutions. He discussed that:

- Operational balance, savings persistence, and an emphasis on measurement and verification are success factors
- Expanded measurement and verification consists of energy and cost analysis, energy use forecasting, and ongoing energy analysis
- The federal government has taken steps to address this issue with examples from DOE, Department of Defense, Department of Health and Human Services, and the National Aeronautics and Space Administration

To view Mr. Wise's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_wise.pdf

DAY 2 – THURSDAY, NOVEMBER 29, 2007

FEMP UTILITY SERVICES UPDATE

Deb Beattie and Karen Thomas, National Renewable Energy Laboratory (NREL)

Deb Beattie and Karen Thomas gave an overview of the FEMP's services providing assistance with UESC project implementation. These services include:

- UESC project support – FEMP's abilities with providing direct project support extends to project facilitation to advise and consult, contract development, technical proposal review, and performance verification
- Agency/utility partnerships
- Renewable project support
- Design assistance
- Agency energy implementation plans

To view Ms. Thomas and Ms. Beattie's joint presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_beattie.pdf

AGENCY UPDATES

Steve Butterworth, National Park Service (NPS)

Steve Butterworth discussed the NPS's energy program and current partnership with the DOE entitled "Green Energy Parks." NPS consists of 60 parks, 6.4 million gross square feet, and utilized 30,000 megawatt hours in 2007. He explored current initiatives and presented case studies. Key elements of Green Energy Parks include:

- Goals to improve energy efficiency in advance of the NPS Centennial, deploy sustainable technologies, and comply with legislative mandates for federal energy efficiency
- NPS's role will be to:
 - Identify opportunities for energy efficiency deployment
 - Prioritize key deployment and promotional opportunities based on impact for reducing energy use
 - Develop and expand new and existing partnerships nationwide
- DOE/EERE's role will be to provide:
 - Technical support
 - Equipment procurement support
 - EERE program support (e.g. FEMP, technology programs, national laboratories)

To view Mr. Butterworth's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_butterworth.pdf

Daniel Gore, United State Coast Guard (USCG)

Daniel Gore presented the USCG energy program. He presented a program overview, highlights, opportunities for partnership with utilities, and discussed alternative financing. Key highlights from Mr. Gore's presentation include:

- The growth of the USCG energy program, which totals \$306 million for FY 2007
- Savings of shore energy expenditures from energy management and fuel expenditure savings from strategic fuel sourcing
- Baltimore shipyard landfill gas Energy Savings Performance Contract (ESPC) as an example
- Utility procurement in deregulated states and renegotiation of rate structures
- Renewable energy examples
- Alternative financing project requirements

To view Mr. Gore's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_gore.pdf

SPECTRALLY-ENHANCED LIGHTING

Brian Liebel, AfterImage + Space

Brian Liebel provided an in-depth look into the benefits and impacts of spectrally-enhanced lighting as an approach to gain energy savings. This type of lighting allows for energy savings without altering occupant satisfaction and visual acuity. Mr. Liebel provided the requisite background information into the technology of this lighting as well as presented case studies. Spectrally-enhanced lighting is beneficial because it:

- Is a cost-effective way to provide for quick energy savings
- Is non-proprietary
- Does not require fancy controls or gadgets
- Has quick payback
- Is a win - win situation, meaning low risk and high reward

To view Mr. Liebel's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_liebel.pdf

CLOSING REMARKS

David McAndrew, Chair of FUPWG, FEMP, Department of Energy (DOE)

Mr. McAndrew provided closing remarks and requested the submittal of meeting evaluations from participants. He thanked key staff that assisted with meeting implementation. Finally, he formally thanked Dave Guebert and Stan Knobbe of SDG&E and all other SDG&E staff for their instrumental help as host of the Fall 2007 FUPWG Meeting.