# Federal Utility Partnership Working Group Meeting

## April 11-12, 2012

## Hosted by AGL Resources
## Jekyll Island, GA

## Meeting Record

The Federal Utility Partnership Working Group (FUPWG) is a joint effort between the Federal Energy Management Program (FEMP) and the utility industry to stimulate the exchange of information among participants and foster energy efficiency projects in Federal facilities nationwide.

The FUPWG meeting held in Jekyll Island, GA, on April 11 -12 was attended by 222 professionals:

- 59 utility officials
- 52 federal agency representatives
- 10 national laboratory representatives
- 101 representatives from energy-related organizations

The complete meeting participant list can be found in Appendix A and the meeting agenda in Appendix B. The meeting presentations can be found at http://www1.eere.energy.gov/femp/financing/uescs_spring12_agenda.html.

**Welcome Remarks from the Host Utility**
*Hank Linginfelter, EVP Distribution Operations, AGL Resources*

Hank Linginfelter welcomed attendees to the FUPWG meeting. He provided background information on AGL Resources and the progress the company has made on several energy efficiency initiatives and programs. Atlanta Gas Light was founded in 1856 and is the oldest corporate citizen in Georgia. AGL Resources is currently the largest gas distribution company in America with 4.5 million customers. Mr. Linginfelter also shared some historical information on Jekyll Island and discussed the significant revitalization work being done by the Jekyll Island Foundation.

**Chairman's Corner**
*David McAndrew, Chair of the Federal Utility Partnership Working Group, FEMP, U.S. Department of Energy*

David McAndrew, FEMP's Project Lead for UESCs and state energy efficiency incentive programs, welcomed the attendees to the meeting, delivered logistics-related meeting announcements, and thanked Kathy Robb and the rest of the AGL Resources team for hosting the meeting. Mr. McAndrew provided an update on some of the key FY 2012 projects including the CO Guidebook and Website updates, Advanced UESC Workshop, Virtual UESC Center of Expertise, Strategic Partnership Meetings, and "Pre-Decision" UESC Web-based training.

Upcoming UESC training dates are as follows:
UESC Workshops

- August 19, 2012 in St Louis, MO
- June/July in San Diego, CA
- October 18 in Mobile, AL

UESC Webinars

- April 15, 2012 – 11-12:30 EST
- May 22, 2012 – 11-12:30 EST
- June 21, 2012 – 11-12:30 EST

Mr. McAndrew reminded the group that agency-specific UESC training is available. Agencies should contact Susan Courtney at Energetics (scourtney@energetics.com) if interested. The 2012 Fall FUPWG Meeting has been scheduled for October 16-17 in Mobile, AL.

To view Mr. McAndrew's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_mcandrew.pdf .

## Washington Update

*Dr. Timothy Unruh, Program Manager, FEMP, U.S. Department of Energy*

Timothy Unruh provided an update on FEMP activities focusing on four areas:

- Status of Federal Goals
- Presidential Memo, "Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings"
- Meeting Memo's Goals
- FEMP Update

Dr. Unruh reported that Federal facilities have invested a total of 940 million in UESC projects dating back to 2003. In the last three years most of this investment was in the form of direct funding (from the Recovery Act). The impact of funding over the last few years is not likely being seen yet in terms of reductions in energy use.

Dr. Unruh briefed the attendees on the the Presidential Memo.

- Agencies shall fully implement projects with a payback of 10 years or less.
- The Federal Government will enter into a minimum of $2 billion in performance-based contracts in Federal building energy efficiency within 24 months (by December 31, 2013).
- Agencies are encouraged to use an installation-wide/portfolio approach that combines long- and short-term projects to maximize efficiency and return on investment.

UESC projects will count toward the goals stated in the Presidential memo provided that contracts include requirements for:

- performance assurances or guarantees,
- M&V of savings through commissioning or retro-commissioning, and
- competition or an alternatives analysis in the acquisition process.

FEMP's performance contract goals are $750 million investment for 2012 and $1.25 billion for 2013. UESC projects will take 6-18 months to implement "if all goes well," so projects will need to be identified and in progress by this summer/fall to be awarded by Dec 2013.

Dr. Unruh discussed the findings of the recent ORNL study on mixing appropriations and private financing. The study shows that using appropriations to directly fund the shortest-payback energy conservation measures (ECMs) has many drawbacks. The study concluded that to achieve the biggest investment and most savings it is best to build the biggest project possible using private financing, including all the shortest-payback ECMs, and to use appropriations as buydowns or to fund additional long-payback ECMs.

FEMP's new ENABLE program will be launched this summer. This small-buildings pilot initiative allows small sites to enter into performance contracting agreements for specific energy conservation measures.

Dr. Unruh pointed out that this is a good time to use private funding because interest rates are very low.

FEMP's new customer service approach involves a three-pronged, more targeted approach to provide better support to agencies. Dr. Unruh provided updates on other FEMP programs including FEMP net-

zero support for DoD, the Web-based tool created for technology deployment, outreach campaigns and recognition, and FEMP's exterior solid-state lighting initiative.

Dr. Unruh concluded his presentation by encouraging everyone to attend GovEnergy scheduled for Aug. 19-22 in St. Louis, MO.

To view Dr. Unruh's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_unruh.pdf.

## UESC Data Collection Update

*Evan Fuka, Third-Party Financing Analyst, Energetics Incorporated*

Evan Fuka provided an update on FEMP's UESC data collection efforts. FEMP has collected UESC data from federal agencies since 1995, amassing information on almost 2,000 projects and more than $2.3 billion in investment. FEMP's Utility Program serves as the federal government's primary source of information on the UESC project funding mechanism. UESC data collection has become very important because of OMB Memorandum M-98-13, released in August 2011, and the Presidential Memorandum, "Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings," issued on December 2, 2011. The OMB memo states that "agencies should consider consulting with FEMP at the planning stages of their projects," while the Presidential Memo requests the Federal Government to implement at least $2 billion in performance-based contracts for federal buildings, which includes UESC-funded projects. The Presidential Memo requires agencies to report energy conservations measures (ECMs) to FEMP's Compliance Tracking System (CTS).

FEMP has been collecting data submitted voluntarily by federal agencies and utilities, but is looking for ways to improve its data collection efforts because agency and utility participation is critical to the success of FEMP's data collection efforts. FEMP wants to increase participation because the more accurate the data is, the better FEMP can understand current trends and successes in UESC investments. This will enhance both FEMP's efforts to promote UESC options as a viable financing mechanism and UESC marketing efforts. A Microsoft Excel template is used to collect and store vital UESC project information in FEMP's password-protected database. By submitting data, agencies can take advantage of the opportunities FEMP offers, including receiving FEMP technical assistance, being featured in a UESC Case Study, and being acknowledged by FEMP for their data reporting. UESC project data can be submitted by contacting Evan Fuka (efuka@energetics.com).

**To view Mr. Fuka's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_fuka.pdf .**

## Effective Use of Appropriations and Alternative Financing to Fund Energy

*John Shonder, Senior Mechanical Engineer, Oak Ridge National Laboratory*

There are several different philosophies about using appropriations in energy management. Some agencies/program offices use their appropriations to directly fund short-payback measures. Appropriations can also be used to fund long-payback measures that don't fit into a UESC/ESPC. Appropriations can also be used as one-time payments (or "buydowns" of the financed amount) in privately financed UESC/ESPC projects. FEMP asked ORNL to develop a method to compare these options quantitatively.

ORNL's approach was to develop a representative project, i.e., a package of efficiency measures, and develop a tool which allowed them to select which measures to fund with appropriations and which to fund with private financing. Then, for each strategy ORNL constructed "balance sheets" for privately financed and directly funded portions, and calculated life-cycle costs while varying the amount of appropriations.

Strategy 1: Appropriations fund short-payback measures, and do rest with private financing
Strategy 2: Fund with private financing, use appropriations on long-payback measures

Strategy 3: Fund with private financing, use appropriations as "buydowns"

The main conclusions of the study were the following:

- Given that agencies must use a mix of appropriations and private financing, using appropriations to directly fund short-payback efficiency measures is not a good strategy because it limits investment and savings, costs the agency more, and limits the agency's options.
- The best strategy is to fund as many measures as possible using private financing, beginning with those with the shortest paybacks.
- Available appropriations should be used to fund long-payback measures, or as up-front payments to reduce the borrowed amount in privately financed projects.

To view Mr. Shonder's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_shonder.pdf .

## DOD Approaches to Utility Partnerships and UESCs

*James M. Cannon, PWBL UEM Program Manager - Renewable Energy Projects, NAVFAC*
*Michael Rits, Chief – Air Force Facility Energy Capital Investments, HQ AFCESA*
*Randall Smidt – Staff Engineer, US Army*

A panel of DOD representatives from the Air Force, Army, and Navy answered specific questions about UESCs.

1. **What is your role related to UESCs within your service?**

   Jim Cannon, *Navy*: Mr. Cannon is a Naval Facilities Engineering Command Engineer serving as the Renewable Energy Program Manager. He broadly works on the Navy's renewable energy projects.

   Mike Rits, Air Force Civil Engineer Support Agency (*AFCESA)*: Mr. Rits is Chief, Facility Energy Capital Investments Branch, for AFCESA. He was recently assigned to administer the third-party financing mechanisms, learning ESPCs and UESCs from Jim Snook.

   Randy Smidt, *Army*: Mr. Smidt is Staff Engineer in the Energy & Utilities Branch for the Army. He oversees policy implementation for the Army's ESPC and UESC programs. He has experience as an installation energy manager and contractor implementing ESPCs and UESCs.

2. **What role will UESCs play in meeting your service's goal under the recent Presidential Memo on performance contracts and in your broader energy efficiency and GHG reduction goals?**

   Jim Cannon, *Navy*: The Navy is engaged and planning to engage in several UESC projects. As the amount of appropriated dollars changes, the use of alternative financing options changes as well. Historically, the Navy has been the largest user of UESCs.

   Mike Rits, *AFCESA*: The Air Force is looking for utilities to bring large project opportunities to the Air Force, such as a decentralized heat plant. Additionally, the Air Force sees potential to engage in projects focusing on process energy, such as data center consolidations.

   Randy Smidt, *Army*: In general, UESC projects are about one-third of the Army's alternative financing program. The UESC portfolio is about $525 million and the ESPC portfolio is about $1 billion.

3. **Briefly describe the UESC project review process in your service.**
   a. **Is it centralized or decentralized?**
   b. **Are there dollar thresholds or characteristics that would require centralized review?**
   c. **Is there a format that utilities can use to make your project evaluation easier?**
   d. **What are you looking for in a UESC project?**

Jim Cannon, *Navy*: The Navy's UESC project review process is centralized in terms of processes and procedures, in which the Navy uses a business management system to evaluates and improve UESC processes and procedures. The Navy is looking to centralize the project development phase, approval phase, and execution phase in the review process, which tend to be more decentralized. The centralized process is not designed to give headquarters complete authority, but to better understand each installation's UESC projects.

Mike Rits, *AFCESA*: The Air Force is centrally managed from a program perspective in providing technical expertise and guidance, but the execution is at the base level with the contracting officer and facility engineers. AFCESA acts as a "reach-back center" that will review the milestones as the project proceeds, review PAs and scope development, evaluate the feasibility study, and review the design of the project to provide assistance to the contracting officers.

Randy Smidt, *Army*: The Army does not have centralized review of UESC task orders unless they reach the $10 million threshold. Historically, the Army has allowed development and implementation of UESC projects to be administered at the installation and local contracting office, but when the UESC task order is beyond the resources of the installation, support is provided by headquarters by contracting to the U.S. Army Corps of Engineers (USACE) Huntsville, Defense Logistics Agency (DLA), or Pacific Northwest National Laboratory. All projects are later reviewed by regional command and headquarters after the installation develops the project. Additionally, if UESC projects exceed the $10 million threshold, they are reviewed by the Office of the Security of Defense.

4. **42 USC § 8253 - ENERGY MANAGEMENT REQUIREMENTS, Section (f) 1 Use of energy and water efficiency measures in Federal buildings, permits agencies to use any combination of appropriated funds or private financing when implementing UESCs. Does your service's policy permit the use of both appropriations and financing when implementing UESC? Why or why not?**

   a. **Does your service's policy encourage bundling appropriated dollars (where otherwise not prohibited) with private financing to allow for more comprehensive projects? If not why not?**
   b. **In determining which projects to fund with appropriated dollars, does your guidance encourage the implementation of short-payback measures?**

   Jim Cannon, *Navy*: The Navy does not have a clear policy in terms of permitting bundling of appropriated dollars with private financing. It depends on the evaluation of economics and efficiency measures. The Navy's guidance uses its Energy Return on Investment (EROI) tool to maximize financial benefits, energy security, efficiency goals, and renewable goals, which causes the implementation of short-payback measures to depend on the score generated by the EROI tool.

   Mike Rits, *AFCESA*: AFCESA permits the bundling of appropriated dollars with private financing, as long as it is economically feasible in meeting energy efficiency goals. If energy conservation opportunities (ECOs) are cost-effective, then bundling is a viable option. AFCESA bundles funding because their guidance evaluates where it is best suited based on the type of project.

   Randy Smidt, *Army*: The Army permits bundling of appropriated dollars and private financing, with the exception of military construction (MIL-CON) funds. MIL-CON funds cannot be mixed as direct appropriations with private financing for specific military construction projects. The Army's guidance does encourage the bundling of all other appropriated dollars with private financing. Mr. Smidt hopes to have ESPC and UESC included in the guidance to provide clarity. The alternative financing policy does not encourage the implementation of short-payback measures, although smaller installations do implement short-payback measures.

5. **Under a "traditional" UESC the utility provides the agency with a "one-stop shop" for implementing an energy efficiency project which may or may not include financing. The utility conducts a preliminary assessment of the opportunities, provides an investment-grade audit**

**of selected measures, and designs and constructs the final project. Does your service support/permit this one-stop shop approach? What are the advantages and disadvantages of this approach?**

Jim Cannon, *Navy*: The Navy permits the one-stop shop approach, but when the preliminary assessment or feasibility study is subcontracted by the utility, then that should be completed in a competitive manner to ensure fairness between contractors. The Navy is reassessing its approach in terms of costs-benefits of separate subcontracting of the preliminary audit and the feasibility study.

Mike Rits, *AFCESA*: The Air Force permits the one-stop shop approach, but does so based on the project. For example, data center consolidation projects may be best suited to the one-stop shop approach. However, when the Air Force has specific items it would like implemented after already completing the preliminary assessment or feasibility study, then they may contract the work back to the utility.

Randy Smidt, *Army*: The Army permits the one-stop shop approach for UESCs. Subcontracting should be conducted in competition. The advantage is that a good relationship between a utility and installation can be built for the long run through the one-stop shop approach.

6. **Finally, beyond standard UESC projects, what role would you like to see utilities play in helping your service meet its energy efficiency, renewable energy, and energy security needs.**

Jim Cannon, *Navy*: The Navy has existing proposals that many utilities are competing for in the Navy's renewable programs, energy efficiency programs, and energy security programs. The challenge is that the Navy's process in the request for proposals may differ from the utility's goals. The Navy and its partnered utility must identify where best to implement energy conservation measures based on the Navy's needs and how to avoid technologies that will become obsolete.

Mike Rits, *AFCESA*: Mr. Rits would like utilities to broaden their scope in the services provided, which should include process energy projects. Additionally, utilities should not try to conduct "business as usual" just because it has been successful. Instead, utilities should look to implement the most economically viable and innovative project. Lastly, streamlining the review process would help reduce the time and effort needed to complete the project.

Randy Smidt, *Army*: Mr. Smidt would like utilities to show more interest in demand response programs, renewable programs, smart grids, micro grids, and energy security projects. The Army wants its installations to reach net-zero energy use, which it hopes to accomplish through alternative financing.

**Natural Gas Technologies and Vehicles**
*Mike Ellis, Director, AGL Resources*

Mike Ellis of AGL Resources introduced Warren Willits and Stephen "Stephe" Yborra, who spoke about natural gas technologies. Mr. Ellis noted the importance of natural gas technologies because of the decreasing price and increasing supply of natural gas.

*Warren Willits, Director – Energy Technologies, Energy Solutions Center*

Warren Willits reviewed energy efficiency technologies for water heating, heating, air conditioning, humidity control, and cogeneration. He discussed how traditional water heaters that have tanks are more energy efficient than in the past, but newer tankless water heaters and solar water heaters are even more efficient. Tankless water heaters have energy factors as high as .97, which means that they use energy to heat water only when hot water is required. Solar water heaters have tanks that run on a high efficiency natural gas system for backup and can hold between 80 and 120 gallons. Tank systems have a 10 to 20

year life expectancy, while tankless systems have a 20 to 25 year life expectancy. As a result, tankless systems have a lower life-cycle cost.

Mr. Willits discussed advances in traditional high efficiency heating products such as boilers, condensing rooftop units, and infrared heaters. Improvements have included new high efficiency, sectional, fire tube, condensing, and copper fin tube boilers. New high efficiency and condensing boilers tend to have higher installation costs than the traditional boilers, but have higher efficiency rates. In condensing boilers, water vapor produced during combustion will condense back into a liquid form, releasing latent heat. New high efficiency and condensing boilers reduce the natural gas consumption and annual natural gas costs, overcoming higher installation costs. Sectional boilers are recommended as replacements because they are easy to install. Based on his life-cycle cost analysis, Mr. Willits concluded that replacing old traditional boilers with new high efficiency boilers tends to have lower costs than keeping and maintaining the old traditional boiler. Additionally, in natural gas rooftop units, new modulating and condensing features improve energy efficiency, and new infrared systems can control heating systems. Two types of infrared systems, high-intensity and low-intensity tubular units, are designed to heat specific objects instead of the entire environment, which saves 20 to 50 percent over conventional systems.

Next Mr. Willits focused on gas air conditioning and humidity control technologies. Gas air conditioning modifies the air space temperature by means of absorption systems or engine-driven heat pumps to create more efficient products than electrical air conditioning systems. Engine-driven heat pumps can adjust the open and close speed of valves, and have the capability to recover heat from the engine jacket and exhaust. As a result, their coefficient of performance is 1.4 for cooling and 1.6 for heating, or the equivalent of a 160 percent efficient heater. Mr. Willits noted that humidity control systems need to maintain a 40 to 50 percent humidity level so that employees are both comfortable and safe from viruses and bacteria that thrive in environments ranging outside the desired humidity levels. Humidity control systems include humidifiers, dehumidifiers, and desiccant systems. Lastly, Mr. Willits compared cogeneration systems, or combined heat and power (CHP), to conventional power generators. He determined that CHP systems are 83 percent efficient and conventional power generators are 49 percent efficient. He provided some helpful tools for determining whether CHP technologies are right for particular applications:

- Calculating potential CHP savings: www.PowerOnsite.org.
- Calculating CHP emissions: www.epa.gov/chp/basic/calculator.html.

Mr. Willits concluded that natural gas is the cleanest-burning fossil fuel and produces lower levels of greenhouse gases than other fossil fuels, while producing almost no solid waste, which is why new technologies that use this fuel are emerging.

To view Mr. Willits' presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_willits.pdf .

*Stephe Yborra, Director of Market Analysis, Education and Communication, Clean Vehicle Education Foundation (CVEF), and Director of Development, National Gas Vehicles for America (NGVAmerica)*

Stephe Yborra's presentation focused on the natural gas vehicle (NGV) market. Mr. Yborra believes natural gas is "America's fuel," and that since many equipment manufacturers already provide NGVs, public and private organizations should consider using NGV fleets and take advantage of their low emissions and fuel costs. In the United States, there are about 120,000 existing NGVs. This year, 45 percent of all new trash trucks purchased for U.S. inner cities were NGVs. Worldwide there are more than 12 million NGVs.

The natural gas market has been stagnating over the years, but the annual growth rate for natural gas consumption has increased 10 to 12 percent in the last six years. The gas gallon equivalent (GGE) to natural gas use was about 200 million in 2005 and increased to 350 million by 2011. Fuel use for medium-duty vehicles (MDVs) and heavy-duty vehicles (HDVs) has grown since the early 2000s, while the number of vehicles has remained the same. Mr. Yborra expects the growth rate of NGVs to accelerate as natural gas prices remain low. Additionally, the worldwide economic recovery should factor into consumer choices as the difference in petroleum and natural gas prices is around 30 to 1, with

savings of 40 to 50 percent. Furthermore, natural gas engines require less maintenance than diesel engines and emit 20 to 29 percent less greenhouse gases than petroleum (20 to 23 percent less for HDVs and 26 to 29 percent less for LDVs). There are about 1,100 natural gas stations In the United States today and about 200 more could be added this year (with half of those being publicly accessible), along with 300,000 miles of pipeline that would be sustainable over 115 years.

The infrastructure for natural gas is expanding with increasing travel costs. Alternative fuels are becoming attractive to retailers, developers, gas distribution companies, and various other organizations because of their high efficiency. An example is waste management, which has more than 1,000 natural gas vehicles; and of its new vehicle purchases for this year, 80 percent are NGVs. Major vehicle manufacturers including GM, Ford, Honda, Kenworth, and several others are participating in NGV distribution. Also recent revisions in the Environmental Protection Agency's regulations for approving "Out of Useful Life (OUL)" HD engine dual-fuel natural gas retrofits have decreased the cost of the approval process, making it much more cost-effective to retrofit legacy diesel fleets.

The growing market for NGVs is apparent, with federal legislative and executive actions requiring federally owned vehicles to use alternative fuel sources and have lower emissions. However, throughput is vital in the NGV market in generating economies of scale and thus allowing pump price differentials that drive reasonable payback and life-cycle savings. Mr. Yborra encourages energy service companies (ESCOs) and utility companies to partner with federal agencies to aggregate load and develop stations that can help meet national mandates while spurring more ubiquitous infrastructure.

To view Mr. Yborra's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_yborra.pdf.

## UESC Case Study: U.S. Coast Guard (USCG) Multi-Site Comprehensive UESC

*Danny Gore, USCG Energy Program Manager, USCG*
*Jesse Maestas, Energy Management Practice Leader, URS Corporation*
*Ed Anderson, Senior Sales Executive for Federal Accounts, Florida Power and Light (FPL)*

Danny Gore discussed the USCG Energy Program's perspective on UESC projects. USCG consumes about 53 percent of all energy used by the Department of Homeland Security and 60 percent of energy used for DHS facilities. About 70 percent of USCG's energy consumption is in the form of fuels for tactical vehicles and 25 percent is for facilities. Under the National Energy Conservation Policy Act (NECPA) and Executive Order (E.O.) 13423, USCG has been able to reduce its energy consumption in USCG facilities by 26.4 percent from the fiscal year 2003 baseline, which is above the 18 percent goal set by E.O. 13423. Since 1998 USCG has implemented 19 alternatively financed projects with terms between 12 to 15 years, based on the life-cycle of equipment. Mr. Gore concluded that as USCG Energy Program Manager, his goal is to reduce the rate of energy spending, which may mean changing practices to increase the rates for return on investment. With the majority of USCG's energy use in tactical vehicles, Mr. Gore plans to investigate whether UESC projects can be applied to vessels tied to the demand side.

Jesse Maestas, who has served as an advisor and financial analyst to USCG's Energy Program since 2005, discussed the philosophy of their agreement with FPL in their UESC contract. USCG began exploring options for a project in Miami, Florida, because the guard has a number facilities there consuming a large amount of energy within a single utility service territory. USCG determined that their Miami facilities were a good place for a UESC project based on information from existing audits, their prior experiences, commitment from local command, and the interest of a utility partner. The acquisition team decided that to maximize investment, USCG needed to expand the UESC to multiple USCG facilities in the Miami area, use known resources, establish comprehensive plans, engage stakeholders in the decision making, and communicate with the utility partner (FPL). As the project began, the first step was completing the USCG Project Definition Document, which is an informal plan from the project team's perspective outlining the roles and responsibilities for the acquisition team.

USCG's preliminary audit (PA) concluded in its review of energy conservation measures (ECMs) that the project would reduce electricity consumption by 21 percent and water consumption by 15 percent with a ten-year simple payback for three sites. To make the plan more comprehensive, the acquisition team chose to mix financed and appropriated funds to address long-term maintenance concerns and introduce additional ECMs. Also, the acquisition team decided to add maintenance backlog items at the AIRSTA Miami site and add eight more sites that could implement ECMs to prevent their being backlogged. The investment grade audit (IGA) identified additional opportunities to add backlogged items and tailor ECMs to each specific site.

Mr. Maestas said the final results showed a 19.1 percent reduction in electricity consumption for all 11 sites. Water consumption was reduced by 64.2 percent and natural gas use was reduced by 21.1 percent. Financially, the UESC project's total capital investment was $6 million with appropriated funds of $1 million dollars from the Civil Engineering Program and $550,000 from the USCG Energy Program. The project was financed on a 12-year term at a 2.91 percent interest rate.

Ed Anderson discussed his perspective working as a utility developing a project. The entire project encompassed about 400 miles between the 11 sites and 42 buildings and included 21 separate ECMs. The project took about a year to complete. FPL's development process began with a no-cost, no-obligation PA that detailed the existing conditions for each building, rate analysis, and preliminary list of ECMs, but did not include costs. FPL next provided a technical review and a pricing workshop, which included the cost information and identified the final scope of the project. After that, the IGA was conducted along with another technical review. Finally, financing was completed and the delivery order was executed.

Mr. Anderson stated that there were issues with the project. Since the UESC project spanned multiple sites, FPL was interacting with multiple site owners and operators, as well as assessing different energy and water rates based on the site histories. There were also fewer subcontractor options because the project was spread across 400 miles, and the available options were too costly. With more data being collected, analysis was more complex and there was the possibility of overlap in analysis and unnecessary expenditure of effort and money for FPL and its subcontractors. Lastly, arranging the financing was complicated because USCG decided to apply appropriated funds to the project after the financing had been competitively placed, so that modifications to the required financing documents were necessary. FPL had initially held discussions with four lenders. After the IGA, they down-selected to two lenders based on firm rates for a lock period and an underlying index if financing closed outside the lock period. The final competition between the two lenders was determined on an escrow basis that compared the rates and the ability to close quickly with the lender.

Both Mr. Maestas and Mr. Anderson suggested that key ingredients for a successful project include a strong and trusting relationship between all parties (agency, utility, legal counsel, and contracting officer) and being as flexible as possible, because change will occur. Attention to detail and experience were critical in making the USCG and FPL relationship solid and their UESC successful.

To view the USCG case study presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_gore.pdf .

### Lawrence Berkley National Laboratory (LBNL) / Pacific Gas and Electric (PG&E) High-Technology Building Initiative

*Dale Sartor, Head of LBNL Building Technologies Application Team, LBNL*

Dale Sartor provided an overview on energy efficiency data centers and laboratories. High-tech buildings can be 5 to 100 times more energy inefficient than typical office buildings and can consume up to 50 percent more energy. Typically, half of the energy in a data center is consumed by the information technology (IT) equipment, while the other half is in the data center's infrastructure. Changes can be made by increasing the voltage distribution in power conversion and distribution systems, making uninterruptible power supply systems more efficient, designing strategies that eliminate redundancies in systems, and analyzing the use of AC and DC power. Server loads and computing operations need to be

more efficient as well because demand in the IT sector has increased over the years. Areas of improvement would include:

- Innovation — Normal change to technologies
- Virtualization of servers — Have applications perform on one virtual server, which will increase the utilization rate of servers by 60 to 70 percent
- Energy Star specification — Use high efficiency power supplies for Energy Star servers
- Load management — Can be achieved by turning off or "putting to sleep" servers

Mr. Sartor discussed the benefits of data center efficiency. Typical savings are between 20 and 40 percent, but aggressive strategies for new construction can push energy cost savings towards 50 percent. Efficiency can also extend the infrastructure's life and capacity, delaying or eliminating the need to upgrade the building's infrastructure. However, Mr. Sartor cautions that energy intensity of data centers varies greatly and advises those considering energy projects to use an energy use index to compare the opportunities and costs in developing efficiency solutions for data centers.

While working with PG&E, LBNL began establishing a benchmark for energy use in data centers. LBNL found a useful high-level metric to benchmark data centers by comparing total data center power to IT power. This metric, Power Utilization Effectiveness (PUE) normalizes IT power to a value of one, allowing meaningful comparisons of data centers in terms of how much energy is used for the IT equipment vs. the infrastructure.

Next Mr. Sartor outlined efficiency opportunities in laboratories. Ventilation is the largest component of energy consumption in laboratories, as most laboratories use 100 percent outside air to prevent recirculation of hazardous materials. A 10 to 20 percent change in ventilation use will most likely have a greater impact on energy efficiency than the entire lighting consumption at a laboratory. The five major areas for change are in optimizing ventilation rates, taming fume hoods that drive ventilation rates, using lower-pressure-drop HVAC designs, addressing opportunities in the plug load and properly estimating plug load size, and minimizing simultaneous heating and cooling.

Mr. Sartor recommends reviewing FEMP's "Best Practices Guide for Energy-Efficient Data Center Design" at http://www1.eere.energy.gov/femp/program/dc_resources.html.

To view Mr. Sartor's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_sartor.pdf .

*Dr. Charlie Williams, Group Leader of Sustainable Federal Operations, LNBL*

Dr. Charlie Williams discussed why LBNL decided to participate in a high-tech-building UESC partnership with PG&E. PG&E's service territory, especially in Northern California, has a high concentration of high-tech buildings. PG&E's UESC program is new and rapidly growing, creating excitement about opportunities for capitalizing on this program and establishing efficiency in high-tech buildings.

LBNL supported PG&E in UESC projects at data centers and laboratories at the following sites:

- United States Department of Agriculture (USDA) Lab: Albany, California
- USDA Labs: Parlier, California; Salinas, California
- Stanford Linear Accelerator (SLAC): Menlo Park, California
- Federal Aviation Administration (FAA): Fremont, California
- Internal Revenue Service (IRS): Fresno, California

PG&E is hosting a workshop, "Federal High-Tech Building Efficiency Summit," on May 2, 2012, that LBNL and FEMP will support. The meeting will provide information about high-tech building energy efficiency, UESCs, ESPCs, and federal technical assistance programs available to PG&E customers.

To view Mr. William's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_williams.pdf .

*Chris Gillis, PG&E*
After the Presidential Memo was released in December 2011, PG&E decided to host a workshop about high-tech solutions and high-tech buildings, including data centers and laboratories. The workshop will discuss contracting, financing, and high-tech solutions for data centers and laboratories. FEMP hopes to duplicate the workshop with other utilities through support from LBNL.

## UESC FAQ Session

*Deb Beattie, Professional Mechanical Engineer, National Renewable Energy Laboratory*
*Linda Collins, Contracting Officer, General Service Administration*
*Phill Consiglio, Southern California Edison,*
*Pam Komer, U.S. Department of Veterans Affairs*

Deb Beattie, Linda Collins, Phill Consiglio, and Pam Komer participated in a panel discussion to answer frequently asked questions relating to UESC projects.

### FAQ 1: What is FEMP's position on the term length of a UESC?

In June 1999, the DOE Schwartz Opinion, formulated by former Deputy General Counsel for Energy Policy Mark Schwartz, addressed the anti-deficiency issue and clarified that energy management is a utility service. However, the legal opinion stated that UESC contracts could be up to ten years. Ms. Komer, who previously was a contracting officer (CO) for USCG, said that when she was with USCG, as a civilian agency, they could engage in UESCs for up to 25 years. Mr. Consiglio, stated that as a utility, the length of the contract will depend on the service provided. He does not like to finance any project with a contract term longer than the equipment's useful life. In his experience, many agencies will point to the DOE Schwartz Opinion stating that UESC projects may be restricted to ten years, but even with 25-year projects, Southern California Edison tries to provide a ten-year payback.

In May 2000, GSA Senior Assistant General Counsel Richard Butterworth developed the GSA Butterworth Opinion, which stated that GSA has contracting authority for greater than ten years through the National Energy Conservation Policy Act (NECPA), 42 USC § 8256, separate and apart from the ten-year authority under the Federal Property and Administrative Services Act of 1949. As the lead agency for UESCs contracted under an Area Wide Contract (AWC), the GSA Butterworth Opinion clearly states that 42 USC § 8256 provides contracting authority for greater than ten years. Ms. Collins said Mr. Butterworth is revisiting his Opinion, but he still believes in it because he believes 42 USC § 8256 applies to UESCs.

David McAndrew stated that standard federal contracts are limited to five years, but the exception gives GSA the authority to sign UESC contracts up to ten years. GSA delegates that authority to DOE and DOD. Based on Mr. Butterworth's legal opinion that was derived from federal law, DOE has followed GSA's authorization to advise agencies to enter into UESC contracts beyond the ten-year limit in the Property Act. DOE concurs that the intent of the legislation was to encourage the use of utility incentives including longer-term financing. However, the Office of the Secretary of Defense (OSD) does not share the same view as DOE and GSA. Instead, OSD believes UESCs are limited to ten years for its agencies.

### FAQ 2: What is the Miller Act and how does it relate to bonding construction projects?

Mr. Consiglio said that the Miller Act requires prime contractors for the construction project to provide a payment bond for contracts in excess of $100,000. The bond acts as security for the protection of those supplying labor and materials in a UESC construction project. This ensures that materials and labor are paid for, eliminating the risk to the government. Utilities require subcontractors to bond the construction elements within a UESC to protect ratepayers. When agencies want utilities to bond the project above the requirement in order to guarantee that the penal sum of the surety bond is protected, they are not doubling the coverage, but instead doubling the cost. The risk is not limited by bonding the project above the requirement because the agency is already protected through dual obligee bonds. However, the Miller Act provides the CO the authority to make that determination.

Ms. Komer and Ms. Collins both agree that as experienced COs, they know that UESCs are a service contract with an element of construction. In their experience, bonding usually occurs during construction; however, each contract must be judged on its own merits. They believe that UESCs are first a service, and then a construction contract dependent on the end service provided. Ms. Collins concludes that UESCs are not a normal construction contract, so all additional costs should be taken into consideration.

## Renewable Technologies for the Southeast

*Andy Walker, Principal Engineer, NREL*

Renewable technologies include photovoltaics, wind power, solar water heating, solar vent air preheat, concentrating solar, biomass heat/power, daylighting, ground source heat, and landfill gas. Mr. Walker described each technology and shared maps outlining the usage of each technology across the United States.

The Southeast is the birthplace of solar energy. Swimming pool heating represents 90 percent of solar water heating usage. The wind power resource is poor in the Southeast. Geothermal energy can be found anywhere if you dig deep enough, but the resource is generally poor in southeast.

Mr. Walker shared a chart which outlines pros, cons, and costs of each renewable technology.

David McAndrew mentioned that FEMP has funding to provide renewable energy screenings to assist agencies in determining which technologies best fit their needs.

To view Mr. Walker's presentation, visit: http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_walker.pdf.

*Skip Cofield, Manager of Federal Generation Development, Southern Company*

Renewable technologies offered by Southern Company include hydro, biomass, solar, landfill gas to energy, geothermal, and wind. They are continually evaluating project opportunities for cost effective solutions.

Two key considerations when looking at renewable options are economics and integration. Legislative requirements, tax incentives, global drivers for commodity pricing, and renewable/green/clean energy tariffs are key factors when determining the cost-effectiveness of a project. Resource intermittency and reliability, backup generation, and interconnection must also be considered.

To view Mr. Cofield's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_cofield.pdf.

## DLA/Army Huntsville Panel Discussion on Contracting Support for UESC

*Cindy Obermeyer, Contracting Officer, DLA Energy*

DLA Energy's mission is to provide the DoD and other government agencies with comprehensive energy solutions in the most effective and efficient manner possible. Their passion is turning an installation's energy conservation requirements into reality.

DoD military services and federal agencies bring their energy needs to DLA Energy for contract execution. DLA Energy is available for both contract acquisition and administration or just the acquisition, and there is no fee to DoD organizations for this service. Federal civilian agencies must pay reimbursement costs for contract services. Contract avenues available for energy conservation requirements are UESC, ESPC, and PPA.

Steps for UESCs:

- Agency and/or energy service company contacts DLA regarding energy conservation needs at a particular site.
- An introduction meeting is held to discuss the project possibilities.

- DLA Energy provides their recommendation to satisfy requirement.
- Agency makes determination of contracting avenue.
- Both agencies concur to partner.

DLA Energy has technical support to help define the energy conservation requirement, prepare the site data package, and develop a project government cost estimate. In competitive acquisition, technical support will assist in determining evaluation criteria for solicitation.

All contracting requirements are met including conducting market research and determination of adequate competition in the industry. Ms. Obermeyer discussed timelines which vary greatly from project to project.

To view Ms. Obermeyer's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_obermeyer.pdf .

*Michael Norton, Huntsville Engineering and Support Center*

Huntsville Engineering and Support Center primarily provides service to the Army but does offer services to all other federal agencies as well.

The Army doesn't have sufficient funds for capital investment, so UESCs benefit the Army in many ways:
- Utility company fronts the capital costs
- Financed projects paid from consumption savings
- Utility company can perform O&M on major systems
- UESC saves energy and water to meet goals

Realizing that the way we are doing business is not working: Mr. Norton discussed a paradigm change in the energy program which is moving away from focusing on individual facilities and moving towards a more holistic, integrated approach.

It is important to develop a master energy plan to develop phased execution with multiple funding sources. It is important that the facilities are asking the utilities the right questions.

Army Huntsville uses the following contract vehicles for UESCs: Area-Wide Contracts, Basic Ordering Agreement, Agency Master Agreement and Site-Specific Contract. They must charge for their services.

Army Huntsville is a "one-stop shop" for centralized project implementation including the utility provider selection process and life-of-contract support. UESC is a proven tool to reduce Army energy and water consumption. UESC is a good solution when upgrades or modernization of existing equipment or systems cannot be funded through existing operating funds (SRM) or with other funding sources (MILCON, ECIP) in the required timeline.

To view Mr. Norton's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_norton.pdf.

## UESC Case Study: Kings Bay Trident Training Facility

*Toby Chandler, AGL Resources*

ADL chose Kings Bay Trident Training Facility for their Case Study because of the uniqueness of the project.

*Brad Clark, Energy Program Manager, NAVFAC Southeast*

Mr. Clark reviewed the energy program chart used by Navy in the Southeast. Energy Conservation is the base of the triangle: If you don't need it on turn it off. The next part of the triangle is Energy Efficiency: If you need to have it running it must be as efficient as possible. Next is the energy demand part, which is related to dollars. The top is the renewable piece, which is really tough to do in Southeast (SE).

Navy SE is concentrating from now until 2015 on the energy efficiency piece. After that they will focus on renewables. Navy competes for funding with 78 other Navy bases around the world. An eROI Tool (energy return on investment) is used to prioritize Navy projects based on their benefit-to-cost ratios and identifies the highest-value portfolio. The five key drivers in the tool include the following: maximize financial benefits, minimize shore energy consumption, provide reliable energy to critical infrastructure, achieve regulatory compliance and stakeholder expectations, and develop enabling infrastructure.

Navy SE has averaged 10 UESC projects each year for about $30 million. That number fell to three last year, two for 2012, and none projected for next year. The Comptroller feels that there are plenty of dollars available, and if projects are not good enough to compete for the money then they are not good enough to be financed.

Navy's current process for getting UESCs and ESPCs is anti-FEMP. They first go after RMe funding and then investigate full funding options (ECIP, MILCON, etc.). They then will investigate using UESC and ESPC options, but the projects that are left are the worst projects.

Four "legal boxes" must be checked for a project to qualify as a UESC:
- Utility company
- Cost-effective project
- Incentive received from the utility company
- Energy conservation or demand-side management

*David Norris, Facilities Engineer Manager, Kings Bay Trident Training Facility*

TRIDENT Training Facility, Kings Bay, exists to provide the highest quality instruction and training to the men and women who comprise the world's finest Navy. The facility is 630,000 sq. ft. and includes the following departments:
- Engineering Training Department
- Navigation Operations Training
- Combat Systems Training
- Strategic Systems Training

ECMs included in this project were lighting, water conservation, UV lights, high efficiency motors, VFD installation, frequency converter installation, and DDC controls.

Key Elements for Project Sustainment:
- Security – Planning – Logistics – Flexibility
- Security access and classified control
- Logistics – lay down and disposal areas
- Maintain all EPA and OSHA standards while protecting the facility/command and contracted installers and project managing company
- A secure lay down and disposal area protects all
- Planning meetings weekly and sometimes daily for updates with coordination and changes for installers and command
- Preparation and contingency plans for installation interruptions
- Have alternate work areas available to move installers
- Always coordinate to keep installers working
- ALL = Sustainment

To view the King's Bay Case Study presentation visit
http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_kingsbay.pdf .

## Edison Electric Institute (EEI) Update and American Gas Association (AGA) Update

*Steve Kiesner, Director of National Customer Markets, Edison Electric Institute*

EEI's membership includes 200 U.S. companies, more than 65 international affiliates and, 170 associates. The institute's mission focuses on advocating public policy, expanding market opportunities, and providing strategic business information.

Mr. Kiesner discussed key industry trends which include the following:
1. Utility industry has embarked on a major investment cycle, driven by the need to address:
    - Generation, transmission, and distribution to ensure reliability
    - Energy efficiency and deploying new technologies (SG, renewables)
    - Significant environmental capital expenditure
2. Increasing concerns about the environment have changed our power supply mix.
    - Short term: Rely on energy efficiency, renewables, and natural gas.
    - Medium term: Targets should be harmonized with the development and commercial deployment of advanced technologies and measures (e.g., nuclear energy, advanced coal technologies with carbon capture and storage, plug-in electric vehicles, and smart grid).
3. We are no longer a declining-cost industry.

Mr. Kiesner outlined the key environmental regulatory challenges for 2012 and beyond and stated that by 2030, the electric utility industry will need to make infrastructure investments of $1,830 billion. The discovery of shale gas is most significant event in this industry.

Industry and Federal customer priorities in 2012 include:
- Extend and clarify UESC authorization.
- Develop a more standardized approach with the services.
- Resolve issues associated with state electricity retail laws.
- Continue to emphasize that installations should work closely with utilities early in the renewable energy planning process.
- Siting utility generating projects (renewable and conventional) at installations.

To view Mr. Kiesner's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_kiesner.pdf .

*David McCurdy, President and CEO, American Gas Association*

Mr. McCurdy believes that peak periods are going to change. Washington is facing huge deficits that will need to be dealt with in a significant way after the election. With the expiration of Bush tax cuts and tax credits all this will come to a head. Appropriated dollars will be much more scarce than in the past and energy will be one of those critical elements of debate in the campaign. Partnering with the private sector is crucial to accomplishing shared energy goals.

Natural gas is a game changer. The current price of natural gas is $1.91, which is not sustainable. EIA and AGA projects costs will go up to $4.00 – 5.00 but not in the short term. Current storage is 60% above the five-year average. Natural gas is here to stay – it is clean and very affordable.

Agencies need to understand that they need to have a diverse approach to energy that is sustainable. AGA is working with utility regulators to invest in the infrastructure while the cost of natural gas is low.

## Implications of Presidential Memo

*David McAndrew, Chair of the Federal Utility Partnership Working Group, FEMP, U.S. Department of Energy*

Mr. McAndrew discussed the three key provisions of the December 2011 Presidential Memo:

a) Agencies shall fully implement projects with a payback of 10 years or less.

b) The Federal Government will enter into a minimum of $2 billion in performance-based contracts in Federal building energy efficiency within 24 months *(by December 31, 2013).*
c) Agencies are encouraged to use an installation-wide/portfolio approach that combines long- and short-term projects to maximize efficiency and maximize ROI.

A lot of the discussion about the Presidential Memo focused on ESPCs. FEMP asked OMB to clarify the role of UESCs. FEMP believes that PPAs should be included as well, but that appears to be an uphill battle.

UESC contracts will count toward memo goals provided that contracts have contractor performance requirements including:

1. performance assurances or guarantees,
2. M&V of savings through commissioning or retro-commissioning, and
3. requirements for competition or an alternatives analysis in the acquisition process.

It is the opinion of FEMP that this memo doesn't say that all projects must be ten years or less. All projects ten years or less have to be implemented, but projects may have terms beyond ten years.

### Process Review of OMB Review of PPAs

*Tracy Logan, Federal On-site Renewable Power Purchase Agreement Program, FEMP, U.S. Department of Energy*

Ms. Logan's presentation focused on the appropriate way to structure PPA projects. The process is still in draft form and FEMP hopes to have final guidance from OMB soon.

A PPA is a contract for the sale or purchase of electricity, according to industry. The federal government views a PPA as a specific deal structure — a third-party owned and operated renewable resource installed on federal land where the host agency purchases the electricity output. OMB tasked FEMP with putting together a process to channel all information to them.

The OMB/CEQ memo, "Supporting Energy and Sustainability Goal Achievement Through Efficiency and Deployment of Clean Energy Technology" (August 16, 2011), states that "ESPCs can incorporate purchase of on-site renewable energy, if the result is lower energy consumption and costs to the Government…. Agencies should … submit to OMB for review of all proposals for PPAs entered into under ESPC authority…."

ESPCs with a PPA ECM

- Can be completed under the DOE or other Federal agency IDIQ ESPC contracts.
- Can be completed through a site-specific full and open competition ESPC.
- All agencies, regardless of ESPC contracting method, are directed to report their proposed ESPC PPA projects to OMB for review, via FEMP.
- OMB to review all PPAs (both stand-alone and as ECMs in an ESPC).

Just like traditional ECMs, the PPA must meet the criteria outlined in the ESPC statute.

Draft ESPC PPA information submission process:

- Start — Agency decides to move forward with ESPC and notifies FEMP of their plans to include a PPA ECM; FEMP notifies OMB.
- Preliminary Assessment (PA) Stage — Agency decides to move forward with ESPC and notifies FEMP of their plans to include a PPA ECM; FEMP notifies OMB.
- Investment Grade Audit (IGA) Stage — Upon completion of the IGA, FEMP helps agency update information template.
- OMB Review Period — FEMP sends OMB updated template and draft agreements.
- Contract Award — Agency forwards final agreements and template to FEMP.

To view Ms. Logan's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_logan.pdf .

## Tax Incentives and Transfer of Title to Renewable Systems

*Mark Regante, Partner, Milbank, Tweed, Hadley and McCloy*

Mr. Regante discussed the following federal incentives:

- Production Tax Credit (PTC)
- Investment Tax Credit (ITC)
- MACRS/Bonus Depreciation
- ARRA Section 1603 Renewable Energy Grants

There are three common arrangements for ownership/financing structures:

- "Partnership with a Flip" Structure
  - Originated in wind energy transactions and adapted for solar
- Lease (Sale/Leaseback) Structure
  - Sale/leaseback cannot be used in wind transactions utilizing PTCs because PTCs are not available to a non-operator owner
- Lease Pass-Through (Inverted Lease Structure)
  - Originated in historic tax credit transactions and adapted for solar

Mr. Regante talked about the tax issues relating to PPAs. A key issue is whether the power purchase agreement (PPA) for the sale of electricity is to be treated as a service contract, a lease, or something else. This issue is relevant to PPAs in both leases and in partnerships.

If the PPA is a lease and the power purchaser is tax-exempt, then the property is tax-exempt-use property, and no ITC or accelerated depreciation is available. If the power purchaser is taxable, you need to apply leasing rules to determine who is the true owner. Where the PPA is a service contract, there is disagreement over whether the power seller is automatically the owner or whether ownership principles still apply. Mr. Regante's firm believes that the better view is that the power seller is the owner, but it may still be advisable to limit the PPA to 80% of property life.

End-of-term options include the following:

- In a cash grant or ITC deal, can have lease to tax-exempt (with FPPO)
  - Seller will be subject to ADS depreciation
  - Term will be limited to 80% of EUL (and 20% residual)
- Rely on general IRC Section 7701(e) service contract rules:
  - Take if delivered
  - Term less than 80% of EUL
  - Sales to third parties permitted
- Reversion at end of site lease term
  - Will require that site lease term equal EUL term
  - Sellers will customarily want right to remove (but may be unlikely)

To view Mr. Regante's presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_regante.pdf .

## Feedback and Discussion on CO Guidebook and Website

*Karen Thomas, NREL*

Quick start guidebook has been developed for DOE. CO Guidebook is still in development. Templates and samples of UESC documents will be included in the guidebook to simplify and streamline the UESC process.

Sections of the guidebook will include the following:

Section 1: Choosing a Utility Partner
Section 2: Preliminary Assessment – Defining the Initial Project Scope
Section 3: Defining the Project and Assigning the Team
Section 4: Acquisition Strategy
Section 5: Detailed Feasibility Study – Project Development
Section 6: Internal Agency Activities
Section 7: Design and Construction – Project Implementation
Section 8: Post-Construction

A generic version of the UESC Guidebook will be developed, and the team also plans to meet with the different agencies to get input on agency-specific terms and conditions.

To view Ms. Thomas' presentation, visit http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_feedback.pdf .