Memorandum of Record
U.S. Department of Energy
Energy Savings Performance Contracts

ESCO Forum
1000 Independence Avenue, SW, WDC, Room 5E-079,
July 14, 2010
9:00 a.m. – 12:00 p.m.

Introductions and Opening Remarks

Ab Ream, Federal Energy Management Program (FEMP), welcomed everyone in attendance, reviewed the meeting schedule and requested each attendee present and on the phone to introduce themselves and their represented organization. The meeting attendees are shown in Attachment 1.

Mr. Ream stated that the purpose of the meeting is to present and discuss new energy technologies, methods for incorporating new energy technologies into Energy Savings Performance Contracts (ESPC) projects, and to obtain feedback from the Energy Savings Companies (ESCO) regarding barriers to implementing new energy technologies in ESPC projects.

Richard Kidd, FEMP Program Manager, stated that he was somewhat disappointed in attendance. The purpose of the meeting is to exchange information with the ESCOs, so ESCO participation is critical to the success of the Forums. This communication process was vetted, and included a legal review. Feedback from the ESCOs is important, including their perception of the market, customers, and suppliers. FEMP is working to communicate positive posture, facilitate more DOE ESPC Task Orders, and has increased the number of training seminars and webinars. The Golden Field Office has increased the number of contracts officers and contract management staff supporting the ESPC program. American Reinvestment and Recovery Act (ARRA) funding is working through the contracting process, and FEMP anticipates an increase in ESPC activity after ARRA funds have been processed through contracting.

Executive Order 13514 requires Federal agencies to develop, implement, and annually update a Strategic Sustainability Performance Plan (SSPP) that prioritizes agency actions based on life-cycle return on investment. Federal agencies need to invest more in energy efficiency at the same time that Federal budget deficit reductions priorities are reducing appropriations to agencies. FEMP is positioning the ESPC program to provide agencies with the resources they need to meet their SSPPs.

FEMP would like to use ESPCs to accelerate the deployment of new technologies that are ready. FEMP understands the challenge of risk perception, and the potential impact on ESPC project financing costs. FEMP encourages ESCOs to present the best suite of technologies in their ESPC proposals, and FEMP will work to make agencies more receptive to emerging technologies. The goal is for ESCOs to offer it and for agencies to buy it.

FEMP will be evaluated on technology deployment, and has added Jerry Dion Senior Technology Matrix Manager.

An ESCO representative asked how may projects are in the DOE ESPC Task Order pipeline, and Mr. Kidd replied that there are 45 projects in the pipeline.

Cyrus Nasseri, FEMP, highlighted Annex-46, the International Energy Agency's Holistic Assessment Tool-Kit on Energy Efficient Retrofit Measures for Government Buildings (EnERGo). There will be a meeting to review Annex-46 the day before the 2010 GovEnergy Conference, August 14, 2010. A participant asked if DOE participates in European discussions, and how the U.S. compares with foreign advances. Another attendee answered that FEMP has tried to pass along best practices and ESCO inclusion into the European alternative finance system, as the European system currently does not have ESCOs.

The group then discussed FEMP's overall role in energy use: FEMP is recognized as a world leader in public investment in, and attention to, energy efficiency. FEMP also provides a model for *how* public sector energy efficiency programs should be run.

Using the Best Commercially Available Energy-Efficient Technology

Christopher Payne, LBNL, presented on FEMP procurement and technology adoption. On the topic of Transforming Markets, Mr. Payne discussed how FEMP helps to identify energy-efficient products and sends market signals to the manufacturers and vendors to produce those technologies on a larger scale, maybe even across international borders.

Mr. Payne then reviewed the different mandates and legislation that govern FEMP. For example, EPACT 2005 requires that agencies buy Energy Star and FEMP-qualified products. Energy Star is a joint program administered by EPA and DOE to identify and label national and international energy efficient products available from commercial manufacturers. FEMP identifies products in the upper 25% of energy efficiency in a given product category (boilers, chillers, etc). FEMP also provides the performance requirements (lifetime, cost savings, etc) for each type, but does not recommend specific product models.

The FEMP Procurement web page: http://femp.energy.gov/procurement will provide product categories for EnergyStar and FEMP designated products, as well as tools for agencies:

- Model contract language
- Energy cost calculators
- Model PPTs and training
- Additional information
- Technical support

You can also purchase energy efficient products at: GSA Advantage!, DoD EMALL, and commercial sources.

Mr. Payne concluded his presentation by saying that agencies should continue to maintain specifications, target a two-year product cycle, review all product designations, and seek out new, prevalent products in the marketplace. Regulations are not effective if agencies aren't abiding by them, so FEMP is also increasing compliance across the board. Stephen Walder, FEMP, can be contacted for questions and technical issues at: Stephen.Walder@ee.doe.gov.

Skye Schell, FEMP, asked whether the ESCOs knew if they were in compliance with EnergyStar and FEMP guidelines. Mr. Payne replied that there are many products that the ESCO community

may not even be aware of. Also, it is cost-effective for the agencies to comply, so it is in the agencies' interest to seek out the purchasing regulations and buy EnergyStar and FEMP-designated products.

Mr. Schell went on to explain that there are opportunities for agencies to be compliant, especially in consideration of potential future audits. It would be embarrassing for agencies and programs if an audit found that they were not compliant, so it's best to implement routine checks to ensure compliance with EnergyStar and FEMP standards.

The expectation is that the ESCOs will ensure that those energy efficiency technologies will be used and meet the approval of auditors and internal review. An attendee asked if DOE ESPC training was available to Agencies. FEMP is currently working to ensure that the training is complete and thorough.

Using New and Emerging Technologies to Increase Savings and Expand Projects

Mr. Marc LaFrance, DOE Building Technologies (BT) Program, presented on "Highly Insulating Windows, Cool Roofs and Other Market Ready Technology." Mr. LaFrance noted that buildings account for nearly 40% of U.S. energy usage. He talked also about how the DOE Building Technologies Program receives between $220 million and $346 million per year from ARRA funding, increasing the possibilities for new technology integration.

Mr. LaFrance then discussed how energy efficiency possibilities are greater than projected and that window technologies are at the forefront. Cost is a barrier at present, but dynamic windows and high insulated windows will become cost-effective over time. For example, low-e storm windows are very expensive and not very well-known; however, it is a technology that will increase in affordability, due to new manufacturers in the industry.

For new window types and manufacturers, the group was directed to: www.windowsvolumepurchase.org. This group is working to ease the process of making purchases on a large-scale.

Mr. LaFrance identified DOE's role in assisting agency compliance with Technical Support Acts. DOE has full range of software support, financing/purchase support, and training materials. Some of this support can be found at: www.commercialwindows.org.

The discussion moved to Cool Roofs and how they reflect and radiate most of the sun's energy back into space. Reflecting near-infrared (50% of sun's energy) further helps to reduce heat in the home. White roofs are the best way to go, as they reflect and radiate out the visible, infrared, and near-infrared energy from the sun. Mr. LaFrance then highlighted Secretary Chu's DOE-wide Cool Roof Policy (6/1/2010) which expressly mandated that "unless determined uneconomical by a life-cycle cost analysis," new construction and replacement roofs must comply with Cool Roof standards.

Mr. LaFrance then discussed several other technologies: window films, exterior insulation finishing systems (like the stucco-like façade at a Wal-Mart), radiant barriers, air barriers, new dynamic insulation, traditional insulation, and cool wall coatings.

An ESCO attendee inquired about the future direction of the industry. There are several daylighting applications that dynamic glass can address by itself, but the main concern to address is that if you are doing a major upgrade or new construction, you *must* ensure that other factors are addressed. For example, adding new pane-glass to lower cooling energy costs is not really beneficial if the reflected heat creates a colder interior, resulting in employee's use of space heaters.

Solid-State Lighting: Preparing for the Opportunity

Mr. Jim Broderick, DOE, presented on the viability of solid-state lighting. He examined the well-known positive factors: drastically reduce energy use, brighter, lighter, and greater durability than conventional lighting. He also discussed how the CALiPER Report Tracking system analyzes lighting performance and trends. Also, GATEWAY demonstrations showcase SSL product sin real applications. For example, in the Minneapolis bridge test, the public voted and preferred the LED lights over the current lighting.

The discussion moved to next generation luminaires and how to identify them. Mr. Broderick noted that there had been substantial testing and review of hundreds of products. Agencies can use the list of 'best in class' (in presentation) winners provided to find the best manufacturers for their agency.

An attendee asked if the country of origin is posted on CFL products. The response given was that no CFLs are made in the U.S., and that China makes most of them.

Case Studies of New and Emerging Technologies in ESPCs

Mr. Mike Holda and Mr. Charlie Williams discussed new and emerging technologies (ET). They explained how implementing energy conservation measures (ECMs) was of the utmost importance. The main goal is to use these new, energy efficient technologies and ESPCs to accelerate the deployment of advanced technologies in the Federal sector.

The tenuous nature of multiple partner relationships makes it necessary for each ESCO and agency to manage its own risks and increase communication throughout the ESPC process. However, the responsibility is on the ESCO to find the technologies that will best fit the project within the regulated parameters. The Emerging Technology Matrix, an MS Excel spreadsheet tool that assists agencies and ESCOs in identifying new technologies, facilitates this effort by providing a pre-reviewed list of approved technology which saves time and research money.

Mr. Williams then discussed several key points: 1) ARRA funding facilitated GSA Region 7 ESPC project implementation; 2) There are many financial incentives for inducting ET into the market; and 3) More emphasis is put on demonstrations to help mitigate potential risks.

Roundtable Discussion

During the roundtable discussion, the group was invited to speak on any market barriers that they were aware of. There are inhibitors and barriers inherent to new technology implementation, because the energy cost savings must be guaranteed by the ESCO in ESPC projects.

First, engineering expertise is not consistent across all agencies. However, the ET Matrix has links to many performance tests and points of contact that can aid agencies without internal experts.

Next, emerging companies often provide new technologies. There is a concern that these companies will not last through the lengthy ESPC project terms in order to provide long-term support and technical expertise. Well-informed agencies should help disseminate success stories and lessons learned for the more successful manufacturers and technologies. This will help to alleviate concerns at other agencies.

Another attendee inquired on how to avoid performance and oversight issues in the midst of the lengthy ESPC terms of (up to 25 years) and staff turnover. Mr. Ream responded that FEMP is developing comprehensive life of contract and project performance period management guidelines to ensure project performance throughout the life of the ESPC.

Closing

Mr. Ream thanked the attendees for their participation, asked that the group stay in contact with FEMP, and requested that they use the information, tools, and resources provided during the Forum. He reiterated that without assistance and communication from the ESCOs, FEMP and the agencies cannot achieve their mandated goals. Mr. Ream also requested comments from the group on how to improve future meetings.