

# FOCUS

## FEMP Changes Structure to Enhance Service and Value for Federal Agencies

The Federal Energy Management Program has adopted a revised mission statement and new organizational structure to better serve its agency customers. The reorganization process began last year when FEMP's program manager, Richard Kidd, met one-on-one with agency representatives and other stakeholders. These meetings provided insight into agency energy management goals and views about the effectiveness of FEMP's previous structure and services. This information was used to realign FEMP's mission and organizational structure, which took effect in January 2009.

**FEMP's new mission is:** *The Federal Energy Management Program (FEMP) facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.*

The new mission statement clearly reflects FEMP's role as a facilitator of sound energy management and investment practices rather than a source of direct funding. FEMP's former mission statements implied that FEMP "financed" agency projects or provided "support" to agency offices, when this was not FEMP's role.

FEMP also changed its organizational structure creating three new service

areas to better assist its Federal agency customers.

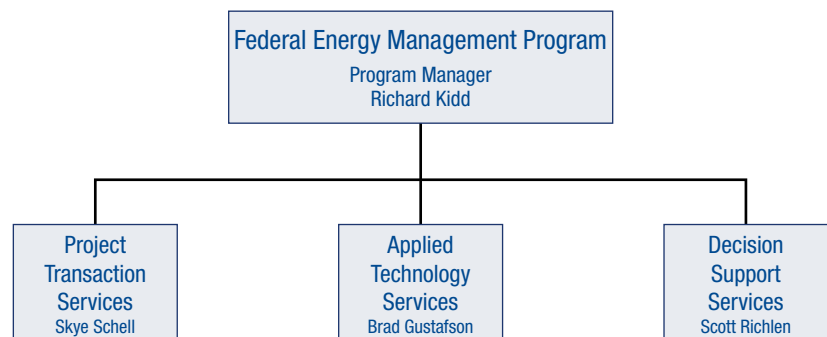
**Project Transaction Services:** This group provides assistance to agencies to help them achieve statutory and executive goals through projects that meet design objectives. Project transaction services provides support through all stages of a Federal efficiency, renewable energy, water, and sustainability project including:

- Planning
- Development
- Implementation
- Commissioning
- Measurement and Verification (M&V)

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### IN THIS ISSUE, You Will Find . . .

- A Message from FEMP's Program Manager
- FEMP's New Organizational Structure
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- DOE's Earth Day Theme



FEMP's new organization chart can be accessed on line at [http://www.femp.energy.gov/pdfs/femp\\_org\\_chart.pdf](http://www.femp.energy.gov/pdfs/femp_org_chart.pdf).

Secretary of Energy  
Steven Chu

Principle Deputy  
Assistant Secretary  
Steven Chalk

Deputy Assistant Secretary  
for Energy Efficiency  
John Lushetsky

FEMP Program Manager  
Richard G. Kidd, IV

Cover Magnifying Glass Photo:

Hangar lighting retrofits  
financed through a utility energy  
services contract at Eglin Air  
Force Base.



*The Federal Energy Management Program (FEMP) facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.*

## A Message from FEMP's Program Manager

Dear Colleagues,

With a renewed emphasis on energy issues throughout our nation, this is a very exciting time at the Department of Energy. We have a new Secretary, Dr. Steven Chu—distinguished scientist, co-winner of the Nobel Prize for Physics in 1997, and former director of DOE's Lawrence Berkeley National Laboratory. We at FEMP look forward to working with Secretary Chu to help implement President Obama's ambitious goals to increase investment in renewable energy and reduce dependence on foreign oil, which in turn will help us meet the Federal Government's energy goals. Such increased attention and investment in the energy field will likely be followed by new and expansive Federal mandates. It is clear that the Federal Government will have an opportunity to lead the nation by example, and FEMP is committed to helping all agencies rise to this challenge.

Last summer FEMP started a process to strengthen its capacity to work with and support our Federal customers. Given the new demands that we are all facing, this was a timely activity. As a result of this, FEMP has a revised mission statement and a new structure. FEMP is now organized around three service lines: Project Transaction Services, Applied Technology Services, and Decision Support Services. For more specifics on what this new structure means to our customers, please see the article on the cover. Furthermore, FEMP has renewed its emphasis on customer service by designating a customer service representative from FEMP for each of the reporting Federal agencies. The article "FEMP Appoints Agency Customer Service Representatives" on page 8 explains the roles and responsibilities of the customer service reps.

FEMP's new structure was a result of extensive consultations with key stakeholders, agencies, and groups. I would like to take this opportunity to thank each of you who contributed. I learned a great deal during this process and would like to continue this open dialogue. Any feedback on how the new structure and customer service representatives are functioning for your agency is welcome. We intend to give the new structure a year or so to get the kinks out, and will then review the effectiveness of the changes.

In addition to information about FEMP's new structure and customer service orientation, this issue of *FEMP Focus* includes articles on DOE's recently awarded indefinite-delivery indefinite-quantity (IDIQ) contract of energy saving performance contracts, agency financing success stories, and new tools and training opportunities.

I hope you enjoy this issue of the *FEMP Focus*!



Richard Kidd  
FEMP Program Manager

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## DOE Awards New Super ESPC IDIQ Contracts

The Department of Energy (DOE) announced on December 18, 2008 the award of 16 new indefinite-delivery indefinite-quantity (IDIQ) energy savings performance contracts (ESPCs) that could result in up to \$80 billion in energy efficiency, renewable energy, and water conservation projects at Federally-owned buildings and facilities. Each new contract provides for a maximum value of \$5 billion for task orders issued over the life of the contract. In addition to these higher contract ceilings, changes from the previous IDIQ contracts include the elimination of technology-specific and regional restrictions, allowing agencies to use these contracts worldwide in Federal buildings, and a greater emphasis on renewable energy and water conservation projects.

The new contracts were awarded to the following energy service companies (ESCOs):

- Ameresco, Inc. (Framingham, Massachusetts);
- Chevron Energy Solutions (Eagan, Minnesota);
- Clark Realty Builders (Arlington, Virginia);
- Consolidated Edison Solutions, Inc. (White Plains, New York);
- Constellation Energy Projects & Services Group, Inc. (Baltimore, Maryland);
- FPL Energy Service, Inc. (North Palm Beach, Florida);
- Honeywell International, Inc. (Golden Valley, Minnesota);
- Johnson Controls Government Systems, LLC (Milwaukee, Wisconsin);
- Lockheed Martin Services, Inc. (Cherry Hill, New Jersey);
- McKinstry Essention, Inc. (Seattle, Washington);
- NORESKO, LLC (Westborough, Massachusetts);
- Pepco Energy Services (Arlington, Virginia);
- Siemens Government Services, Inc. (Reston, Virginia);
- TAC Energy Solutions (Seattle, Washington);
- The Benham Companies, LLC (Oklahoma City, Oklahoma); and,
- Trane U.S., Inc. (McEwen, Tennessee).

The Federal government is the largest single user of energy in the United States. These awards provide Federal agencies access to alternative financing tools at a scale that is required to meet challenging energy efficiency, water conservation, and renewable energy goals. Executive Order 13423, the Energy Policy Act of 2005, and the Energy Independence and Security

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## New Energy Savings Performance Contracting Training Opportunities

The Department of Energy recently re-competed its Super Energy Savings Performance Contracts (ESPCs) and awarded 16 new indefinite-delivery, indefinite-quantity (IDIQ) contracts for use by Federal military and civilian agencies. FEMP is now offering new three-day **ESPC Comprehensive Workshops** for Federal employees; the workshops cover use of the new IDIQ contracts to implement energy and water-efficiency projects as well as recent statutory changes pertaining to the use of ESPCs.

The first day of the workshop focuses on the basics of the new IDIQ contracts and provides information on getting started with an ESPC project at a Federal site. The second day covers pricing and financing and other complex aspects of a project. The third day is dedicated to two breakout sessions. The first session is devoted to planning a project to meet a site's energy and water goals, measurement and verification options, and the review of an energy service company's (ESCO) technical proposal. The second breakout addresses contracting and negotiation methods including identifying and selecting an ESCO, preparing contract folder contents, and preparing for negotiations and award of the Task Order.

The workshop is currently being offered on the following dates and at the following locations:

**April 14-16, 2009**  
Washington, DC

**June 16-18, 2009**  
Denver, Colorado

**May 5-7, 2009**  
Las Vegas, Nevada

**July 14-16, 2009**  
Charlotte, North Carolina

Additional classroom workshops may be scheduled later in the year, and ESPC Webinars are scheduled throughout the year. For the most up to date information and to register, please visit <http://www.femp.energy.gov/news/events.html>.

**Please note: these workshops are available to Federal employees only.**

*For information on these and/or agency customized workshops, please contact Gordon Drawer, Project Financing Specialist, at [gordon.drawer@ee.doe.gov](mailto:gordon.drawer@ee.doe.gov) or 630-584-9650.*

# Seven Contracts Awarded at DOE Sites Under DOE Energy Initiative

The Department of Energy (DOE) Order 430.2B transformed the way DOE manages its energy use. The order spearheads an aggressive effort to make DOE the leading agency in Federal energy management, designed to exceed the mandates found in the Energy Policy Act of 2005 (EPACT), the Energy Security and Independence Act of 2007 (EISA), and Executive Order 13423.

Private party financing tools such as energy service performance contracts (ESPCs) are defined as the main vehicle to reach DOE's goals. With ESPCs, energy service companies (ESCOs) help identify, purchase, and install equipment that will save energy and water or generate renewable energy. Facilities pay for the equipment and services over time from guaranteed savings that the projects generate. As a result, the appropriations process, which can be long and does not guarantee levels of funding, can be avoided.

More than twenty sites making up the vast majority of DOE's energy consumption were selected for ESPCs. To date, seven contracts have been awarded at the following sites: Idaho National Laboratory; Lawrence Livermore National Laboratory; National Energy Technology Laboratory; Oak Ridge National Laboratory; Argonne National Laboratory; Hanford Site; and the Nevada Test Site. These awards are the vanguard of DOE's efforts, representing significant accomplishments that are only the tip of the iceberg in terms of what is coming in DOE's project pipeline.

## Idaho National Laboratory (INL)

- Implementation cost: \$33 million
- Savings: \$2 million/year and more than 5 billion Btu/year in energy consumption
- Project will switch power source for boilers, reducing fuel oil purchases from 600,000 gallons/year and dramatically reducing carbon dioxide emissions

## Lawrence Livermore National Laboratory (LLNL)

- Implementation cost: \$11 million
- Savings: more than \$1 million/year and nearly 100 billion Btu/year in energy consumption
- Installation of an Energy Management Control System (EMCS) that will provide a powerful tool in diagnosing and solving HVAC system problems while keeping the systems running efficiently

## National Energy Technology Laboratory (NETL)

- Implementation cost: \$6 million
- Savings: \$800,000/year and more than 20 billion Btu/year

in energy consumption and more than 3 million gal/year in water use

- Showcase of innovative technologies including biogas boilers, green roofs, hybrid lighting, advanced metering, solar lighting, and rooftop wind turbines

## Oak Ridge National Laboratory (ORNL)

- Implementation cost: \$89 million
- Savings: \$8 million/year and 800 billion Btu/year in energy consumption and 170 million gal/year in water consumption
- Project will install a biomass steam plant, expand the building energy management system, and decentralize the steam system to reduce leakages

## Argonne National Laboratory (ANL)

- Implementation cost: \$4 million
- Savings: \$500,000/year and more than 32 billion Btu/year in energy consumption
- Project will upgrade lighting and lighting controls and improve heating and cooling efficiency

## Hanford Site (Hanford)

- Implementation cost: \$11 million
- Savings: \$2 million/year and nearly 20 billion Btu/year in energy and energy-related savings
- Project will upgrade cooling and HVAC control systems, eliminate energy waste, and prolong the useful life of key facilities

## Nevada Test Site (NTS)

- Implementation cost: \$5.8 million
- Savings: \$568,000/year and 18 billion Btu/year in energy consumption
- Project will upgrade lighting, including the installation of solar lighting systems, and improve the building management systems

These laboratories and sites answered the call for leadership with resounding results and the setting of new records. Using the requirements stipulated by Federal mandates and DOE management as goals, the laboratories and sites worked together with energy service companies to identify and develop sound energy management ideas and put them into delivery orders. They followed a standard ESPC process, but with a more aggressive schedule. Interim deliverables such as initial proposals and detailed energy surveys gradually refined quantitative estimates on savings to the point where a final proposal could be used as part of the contracted delivery order. With the resolute goal to make DOE the leading agency in energy management, DOE laboratories and sites took up

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# Coeur d'Alene Tree Nursery Enjoys Energy Savings

Three years after installation and commissioning of a new chiller and lighting system, the U.S. Forest Service, Northern Region, Regional Tree Nursery in Coeur d'Alene, Idaho, still enjoys an 80 percent reduction in energy use. This remarkable energy reduction was achieved with the help of the U.S. Department of Energy, Bonneville Power Administration (BPA) Federal Agency Energy Efficiency Program.

Refrigeration systems are essential to growing tree seedlings in a precisely controlled manner, so that seedlings are ready for planting at exactly the right time. In 2001, the Nursery's inefficient 1962-vintage refrigeration system began to fail, and the Forest Service could only provide capital funds to make emergency repairs. In 2002, the Forest Service Regional Office contacted BPA to seek help in addressing the refrigeration system failures.

After a BPA engineer completed an energy audit, the Forest Service was presented with a number of potential energy efficiency measures. The Forest Service chose to pursue completely replacing the refrigeration system and retrofitting lighting throughout the Nursery. An efficient chiller system that included screw compressors with variable frequency drives replaced the inefficient Freon™-based refrigeration system, which served almost 21,000 square feet of refrigerated space. The old evaporators and fans were replaced with more efficient evaporators, and warm "waste" water produced by the system's condenser was used to defrost the evaporator coils. The entire system is computer-controlled. For lighting, BPA and the Forest Service proposed replacement of all existing ballasts and lamps with more efficient models.

These projects, however, cost more than \$2.3 million. BPA provided a \$250,000 incentive for the project savings, and then arranged a \$1.6 million third party financing transaction. Because BPA took quick action to arrange the financing at a time when the Forest Service had some appropriated funds to use for the remaining project costs, the project was implemented.

## **SEVEN CONTRACTS AWARDED AT DOE SITES UNDER DOE ENERGY INITIATIVE** (Continued from page 4)

the challenge and maximized the use of ESPCs. Oak Ridge National Laboratory set the bar, not only by developing one of the largest awards at \$89 million, but also doing so in an incredible 300 days, where ESPC projects typically take 18 or more months to complete.

The seven awarded projects, totaling \$160 million in investment, along with remaining DOE ESPC projects in the pipeline, will be constructed with little or no appropriated funding. Moreover, many energy conservation projects

After project completion, the Forest Service hired an independent measurement and verification contractor. Metered savings were found to be more than 80 percent of the original Tree Nursery electric energy consumption, and continued review of utility bills indicates that those savings are being sustained.

The Forest Service is not only enjoying significant operating cost savings, but the new system requires much less maintenance, provides better quality seedling management, and the lighting improvements have produced a higher quality, more productive, and safer work environment. Staff time that was previously spent on maintenance of the refrigeration system is now directed to new productive assignments. Total savings exceeded 2.1 million kilowatt-hours per year, reducing the Forest Service power bill by about \$100,000 per year.

Forest Service Regions across the nation have learned from the Coeur d'Alene project, applying some of the lessons learned to their tree nurseries and producing additional energy savings benefits.

*For more information, please contact Frank Brown, Energy Efficiency Representative, at [febrown@bpa.gov](mailto:febrown@bpa.gov) or 206-220-6774 or Kathryn Patton, Energy Efficiency Specialist, at [kbpatton@bpa.gov](mailto:kbpatton@bpa.gov) or 206-220-6785.*



contained in these awards were required as soon as possible, a time constraint by which the appropriations process would not have been able to meet. In addition to saving energy and water costs, these DOE laboratories and sites are making use of the latest technologies available today and demonstrating what "leading by example" truly means. Their leadership represents a first of many steps that DOE will take internally to reduce the nation's dependence on foreign energy resources, mitigate climate change, and improve energy security.

*For more information, please contact Skye Schell at [schuyler.schell@ee.doe.gov](mailto:schuyler.schell@ee.doe.gov) or 202-586-9015.*

# Chicago SSA Demonstrates Success Using UESC and ESPC

With rising energy costs and expanding Federal requirements to reduce building energy consumption, agencies must consider options to finance sustainable energy projects. By taking advantage of contracting vehicles such as utility energy services contracts (UESCs) and energy savings performance contracts (ESPCs), Federal agencies have the ability to achieve cutting edge sustainability. Using these tools, Federal agencies can work with utilities and energy service companies (ESCOs) to create sensible fiscal planning and meet progressive environmental goals.

No single contracting vehicle is appropriate to every situation; even within a single complex project, such as the Chicago Social Security Administration (SSA), it often takes a creative combination of direct-funding and alternative financing solutions to achieve maxim savings. SSA, a leader in demonstrating this concept, combined direct-funding and alternative financing to install energy enhancements at its 693,200-square-foot, 10-story, all-electric Harold Washington Social Security Center in Chicago, Illinois.

Taking advantage of a UESC, where the capital costs of a project are covered by the utility and repaid by savings generated by the project, SSA contracted with Commonwealth Edison to construct a 110 kilowatt (kW), 8,800-square-foot rooftop solar photovoltaic (PV) array—the largest in Chicago’s loop area. It reduces SSA’s electrical load by about 97,000 kilowatt-hours (kWh) per year.

Energy managers recognize that a 110 kW solar installation is

a modest electrical system in comparison to a 1,000 megawatt nuclear plant, for example. But small-to-moderate scale projects tailored to individual buildings are precisely the type of system that UESCs are designed to encourage.

Using the Department of Energy’s Super ESPC contract vehicle, SSA partnered with Constellation Energy Projects & Services Group to implement a number of energy conservation measures (ECMs), including a solar thermal water heating system, chilled water system improvements, energy management system improvements, building retro-commissioning, high efficiency lighting, and lighting controls. As a financing tool, ESPCs are similar to UESCs—the up-front and recurring costs are paid from the annual savings that the project generates. Furthermore, the ESCO installing the ECMs can take on operating and maintenance duties to guarantee those savings.

At SSA, the ESCO is providing measurement, verification, and continuous building retro-commissioning services for the life of the contract. Initial estimates predicted the installed ECMs would save about 4,600,000 kWh of electricity annually and about \$327,000 per year (the contract guarantees savings of at least \$295,000 per year). The ECMs actually were found to save more than 5,100,000 kWh of electricity annually and more than \$350,000 per year.

The table below details the various savings across twelve implemented measures in order of energy savings:

**ECMs and associated cost-saving analysis**

Energy Conservation Measure	Total energy savings (MBtu/yr)	Electric savings (kWh/yr)	Baseline energy cost	First year energy cost savings, (\$/yr)	% Savings
<i>Chiller Plant Improvements</i>	9,397	2,753,430	\$418,564	\$189,882	45%
<i>EMCS Retro-commissioning</i>	3,738	1,095,090	\$663,951	\$73,810	11%
<i>Facility-wide High Efficiency Lighting</i>	1,225	359,021	\$219,144	\$27,231	12%
<i>Garage Ventilation Controls</i>	976	286,074	\$32,409	\$19,144	59%
<i>Heat Recovery on H&amp;V Units</i>	841	246,355	\$61,192	\$16,486	27%
<i>Lighting Controls</i>	693	203,136	\$211,423	\$13,262	6%
<i>1st Floor/Garage High Efficiency Lighting</i>	556	162,980	\$18,469	\$12,387	67%
<i>Solar Hot Water Heating</i>	69	20,077	\$10,489	\$1,344	13%
<i>Lighting Fixtures/Controls in Stairwells</i>	69	20,220	\$3,336	\$1,320	40%
<i>Warehouse Lighting Controls</i>	43	12,540	\$5,664	\$819	14%
<i>Electric Meter Optimization</i>	Not applicable		\$2,731	\$706	26%
<i>Dimmable CF Fixtures</i>	35	10,218	\$1,913	\$667	35%
<b>Totals</b>	<b>17,642</b>	<b>5,169,141</b>	<b>\$1,649,286</b>	<b>\$357,058</b>	<b>22%</b>

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# Celebrate Earth Day on April 22 with “New Energy for America”

The Administration’s “New Energy for America” plan will “invest in alternative and renewable energy, end our addiction to foreign oil, address the global climate crisis and create millions of new jobs.” America’s leadership has declared the time for action is now. Starting with the Federal government, our nation is turning this time of economic challenge into a time of strategic opportunity — a time to build a clean energy future.

Agencies are moving forward to modernize the entire fleet of Federal vehicles with fuel-efficient models made in America and running on cleaner-burning fuels. We are embarking on a path to achieve ambitious goals such as retrofitting more than 75 percent of the Federal building stock. These bold new programs will not only save money over the long run, they will also increase demand and production of clean fuels, spur innovation in energy efficiency, and expand the manufacture of solar panels, wind turbines, and other environmental technologies that create new jobs for Americans.

That’s why the Department of Energy’s theme for this Earth Day is:

## New Energy For America

Stimulate the Economy • Protect the Environment • Increase Energy Independence

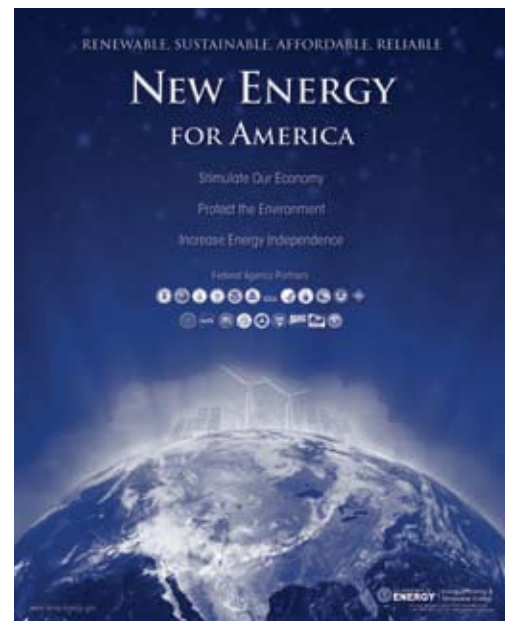
New Energy for America is not an abstract idea. It represents aggressive implementation of renewable projects that bring clean energy on line. It exemplifies the innovation of people harnessing the cheapest, fastest, and cleanest energy source energy efficiency.

It demonstrates the accelerated use of high-efficiency, high-

performing vehicles and the increased use of alternative fuels produced right here at home.

New Energy for America is a change in attitude, a vibrant transformation of public and private cooperation, and a positive new direction to create a clean energy economy. It is the new energy of Federal workers who serve the nation each and every day, working to transform the ways we produce and use energy for the sake of our environment, our economy, and our security.

*FEMP’s Earth Day poster and accompanying handout materials, including bookmarks, monitor calendars (split year), and magnets, are available in limited quantities beginning March 25, 2009. To create your own printed materials, high-resolution graphics are supplied on A Power Kit: Awareness Resources on CD ROM. Please call the EERE Information Center at 1-877-337-3463 to place an order. To learn more about the You Have the Power campaign, please visit the FEMP Web site at [www.femp.energy.gov/services/yhttp/](http://www.femp.energy.gov/services/yhttp/).*



## DOE AWARDS NEW SUPER ESPC IDIQ CONTRACTS (Continued from page 3)

Act of 2007 require Federal agencies to reduce energy intensity by 30 percent from 2003 levels and reduce water usage by 16 percent from 2007 levels by 2015, and generate or purchase renewable electric energy equivalent to at least 7.5 percent of their electricity use by 2013.

ESPCs enable agencies to undertake energy savings projects without paying up-front capital costs. ESPCs are contracts under which a contractor designs, constructs, and obtains the

necessary financing for an energy savings project, and the Federal agency makes payments over time to the contractor from the savings in the agency’s utility bills. The contractor guarantees the energy improvements will generate savings. Aggregate annual payments to the contractor and for utilities cannot exceed the amount that the agency would have paid for utilities without an ESPC. After the contract ends, all continuing cost savings accrue to the agency.

*For more information, please contact Bill Raup, FEMP, at [william.raup@ee.doe.gov](mailto:william.raup@ee.doe.gov) or 202-586-2214.*

## FEMP Appoints Agency Customer Service Representatives

At the Federal Interagency Energy Task Force meeting on January, 29, 2009, Richard Kidd announced FEMP's creation of Customer Service Representatives. Each Federal agency now has a FEMP staff member designated as a primary point of contact. The goal of each customer service representative is to improve the quality of the assistance that FEMP provides to each Federal agency. Critical to success in this function is that each FEMP Customer Representative cultivate an in-depth understanding of "their" agency's aims and objectives when it comes to energy management and investment. The Customer Service Representatives will facilitate and be aware of projects between the Department of Energy (DOE) and the agency, helping the agency identify DOE resources and proper contacts, while working to resolve any issues or problems that may arise.

The Customer Rep can help the agencies with FEMP services such as:

- Training
- ESPCs / UESCs / PPAs
- Laboratory expertise
- Fleet management assistance
- Renewable guidance

The Customer Service Representatives will not replace technical contacts at FEMP or ESPC contacts such as contracting officers at DOE's Golden Field Office and Federal Financing Specialists. Instead, Customer Service

Representatives will serve to coordinate agency activities with FEMP and indeed with all of DOE's Office of Energy Efficiency and Renewable Energy (EERE).

Currently, Customer Reps are introducing themselves to key energy contacts at each agency to learn more about the agency's energy plans and how energy decisions are made. Customer Representatives will work with those contacts to identify ways FEMP can facilitate achievement of the agency's energy management goals in response to relevant Executive Order and Legislative requirements. These resources could be provided by FEMP, EERE, DOE's National Laboratories, private sector partners, and others. FEMP's Customer Service Representatives will also work closely with agency contacts to develop joint analysis of data and prioritization of agency needs.

FEMP would like to hear from you, the agencies, on how the Customer Service Representatives can help serve your agency's needs and how they can help you meet your energy management requirements. We look forward to better understanding our customers' needs and facilitating the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.

*For more information, please contact Scott Richlen at [scott.richlen@ee.doe.gov](mailto:scott.richlen@ee.doe.gov) or 202-586-2078.*

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## GSA Issues Energy Management and Support Services Contract

The U.S. General Services Administration (GSA) has issued a new GSA Multiple Award Schedule (MAS) contract providing energy management support services for Federal agencies. The contract provides support services to meet the environmental, energy, and transportation conservation goals set forth in Executive Order 13423, as well as audit requirements of the Energy Independence and Security Act of 2007.

GSA's affiliated contractors can provide the services and expertise needed to facilitate energy management in government buildings, ranging from preliminary energy audits to comprehensive full-service energy management solutions. All contractors on the contract have undergone an offer and award evaluation process, as well as a compliance review related to various labor laws and socio-economic considerations. As a result, ordering agencies don't have to repeat these steps.

Energy management support services offered under this schedule contract include:

- Energy audit services;
- Energy management program support, planning and strategies;
- Water audits, management and conservation solutions;
- Resource efficiency management and training;
- Innovative renewable energy solutions;
- Building commissioning services, and;
- Metering and advanced metering services.

The contract also makes it faster and easier to develop "green" buildings that rate favorably with Leadership in Energy and Environmental Design (LEED™) standards, as designated by the U.S. Green Building Council.

*For more information, please contact Robert Lesino of GSA at [robert.lesino@gsa.gov](mailto:robert.lesino@gsa.gov) or 202-501-1231.*



**FEMP Appoints Agency Customer Service Representatives**  
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Federal Agency/Sub-Agency	FEMP Customer Service Representative
Department of Agriculture (USDA)	Mark Reichhardt, 202-586-4788, mark.reichhardt@ee.doe.gov
Department of Commerce (DOC)	Joe Konrade, 202-586-8039, joseph.konrade@ee.doe.gov
Department of Defense (DOD)	Richard Kidd, 202-586-5772, richard.kidd@ee.doe.gov
Department of Energy (DOE)	Cyrus Nasser, 202-586-9138, cyrus.nasser@ee.doe.gov
Department of Health and Human Services (HHS)	David McAndrew, 202-586-7722, david.mcandrew@ee.doe.gov
Department of Homeland Security (DHS)	Ab Ream, 202-586-7230, ab.ream@ee.doe.gov
Department of Housing and Urban Development (HUD)	Stephen Walder, 202-586-9209, stephen.walder@ee.doe.gov
Department of Justice (DOJ)	Hayes Jones, 202-586-8873, hayes.jones@ee.doe.gov
Department of Labor (DOL)	Will Lintner, 202-586-3120, william.lintner@ee.doe.gov
Department of State	Mark Reichhardt, 202-586-4788, mark.reichhardt@ee.doe.gov
Department of the Interior (DOI)	Joe Konrade, 202-586-8039, joseph.konrade@ee.doe.gov
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Environmental Protection Agency (EPA)	Matthew Gray, 202-586-0067, matthew.gray@ee.doe.gov
General Services Administration (GSA)	Schuyler (Skye) Schell, 202-586-9015, schuyler.schell@ee.doe.gov
National Aeronautics and Space Administration (NASA)	David Boomsma, 202-586-7086, david.boomsma@ee.doe.gov
National Archives and Records Administration (NARA)	Rebecca Dyer, 202-586-8215, rebecca.dyer@ee.doe.gov
Social Security Administration (SSA)	Annie Haskins, 202-586-4536, annie.haskins@ee.doe.gov
Tennessee Valley Authority (TVA)	Shawn Herrera, 202-586-1511, shawn.herrera@ee.doe.gov
U.S. Air Force	Chris Tremper, 202-586-7632, chris.tremper@ee.doe.gov
U.S. Army	Anne Crawley, 202-586-1505, anne.crawley@ee.doe.gov
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**Federal Agency Customer Service Representatives:** Each Federal agency now has a single contact within the Department of Energy's (DOE) Federal Energy Management Program (FEMP). This contact serves as that agency's Customer Service Representative to help identify appropriate resources and resolve concerns related to FEMP services. Representatives also assist in agency planning to meet energy goals.

# GovEnergy 2009



### Charting a Course to Energy Independence!

GovEnergy offers the tools, techniques, and best practices for developing key strategies aimed at meeting Federal energy management goals.

GovEnergy is an interactive, educational forum dedicated to addressing the difficult challenges of Federal energy management.

**Register** - Early Bird online registration ends June 10, 2009!

Visit [www.govenergy.gov](http://www.govenergy.gov) for more information

### GovEnergy Highlights:

- Learn ways to stay on course with the new administration's energy goals.
- Choose from over 100 technical tracks, addressing both day-to-day and long-term energy management goals.
- Attend networking opportunities with fellow energy professionals.
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- Explore the exhibit hall and discover the latest products and technologies.
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### GovEnergy is of Special Interest to:

- Federal Energy Managers
- Federal Energy Coordinators
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- Federal Procurement Officials
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- Utility and Energy Service Companies
- Equipment Manufacturers
- Energy Management Service Providers
- Fleet Managers and Transportation Professionals
- Private Sector Facility and Energy Professionals

### GovEnergy 2009 Agency Sponsors



## DOE Sites – Submit Your 2009 Energy Award Nominations!

FEMP is encouraging all Department of Energy offices to submit their exemplary FY 2008 project nominations for the 2009 Federal Energy and Water Management Awards. These awards recognize exemplary programs, teams, and individuals that show superior leadership in effective, efficient energy management. From all DOE nominations FEMP will conduct a separate judging process to select winners for DOE's 2009 Departmental Energy Management Awards. In past years, FEMP has presented these awards in October during Energy Awareness Month at Headquarters, but this year DOE's Departmental Awards ceremony will be held in conjunction

with GovEnergy 2009 in Providence, Rhode Island. A dinner ceremony is tentatively scheduled for the evening of Wednesday, August 12 following DOE's Energy Efficiency Working Group (EEWG) meeting at the Westin Providence hotel. Attendance is by invitation only.

*For more information about these awards and to download criteria and guidelines, please visit <http://www.femp.energy.gov/services/awards.html>. Questions also may be directed to Jennifer McCain at [jennifer.mccain@ee.doe.gov](mailto:jennifer.mccain@ee.doe.gov) or 202-586-1573*

## FEDS 6.0 Software is now Available!

The Facility Energy Decision System (FEDS) is an easy to use building energy efficiency software tool that quickly and objectively assists in identifying energy improvements to facilities that maximize savings. With limited user input, this program can:

- Develop prototype buildings and engineering parameters;
- Calculate energy consumption and electrical demand;
- Estimate the total load from all connected buildings and other central plant equipment, both at baseline and throughout the retrofit optimization process;
- Determine potential retrofits and their cost effectiveness using Federal life-cycle cost analyses as required in 10 CFR 436A and Office of Management and Budget (OMB) Circular A-94 or assuming energy savings performance contract (ESPC) funding;
- Provide screening assessment or detailed analysis of single buildings or large installations with many buildings;
- Report energy consumption, cost, and air pollutant emissions impacts; and
- Put you well on your way to meeting Executive Order 13423 and Energy Policy Act of 2005 requirements.

FEDS determines the optimum set of cost-effective retrofits from a current database of thousands of proven technologies. These include retrofits for heating, cooling, lighting, motors, building shell, and hot water. Replacement or modification considerations vary from complete replacement to functional enhancements to fuel switching. Optimization can be targeted to a single end-use, single building, or entire installation, and retrofit cost data can be modified to better represent costs at your site.

As with previous versions, Pacific Northwest National Laboratory (PNNL), with the support of a number of Federal agencies, developed the latest release. FEDS 6.0 marks yet another significant step forward in the continued evolution of the FEDS software, and has added enhancements that make it more powerful and flexible than ever. This version adds a detailed central energy plant and thermal loop module. This module enables vastly improved modeling of central steam, hot water, and chilled water systems and costs—from the generation equipment to the distribution loops that deliver it to the buildings where it provides heating, cooling, hot water, or other services—calculating the energy content and losses at each step. Other new or improved features include the addition of new technologies, additional optimization flexibility, and more detailed means of specifying a building's occupancy profile and geometry.

FEDS 6.0 contains updated cost and performance data, new baseline and retrofit technologies, and many functionality enhancements aimed at making FEDS even more useful for analyzing building energy efficiency improvements.

*FEDS software is provided at no charge for use on Federally-funded projects and those projects funded and directly performed by a state government on a state-owned facility; it may be purchased for other use. Visit the FEDS Web site at [www.pnl.gov/FEDS](http://www.pnl.gov/FEDS) or contact Energy Efficiency and Renewable Energy's (EERE) Information Center at 1-877-EERE-INF (1-877-337-3463).*

*For more information or questions on using the FEDS software, visit the FEDS Web site or contact Rosemarie Bartlett, FEDS Information Administrator, at 509-375-6606 or [FEDS.Support@pnl.gov](mailto:FEDS.Support@pnl.gov).*

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### **FEMP CHANGES STRUCTURE TO ENHANCE SERVICE AND VALUE FOR FEDERAL AGENCIES** (Continued from cover)

**Applied Technology Services:** This group provides technical support services across the Federal Government, enabling agencies to meet their energy efficiency and renewable energy goals in the areas of:

- Mobility (fleet)
- Sustainable design
- Renewable Energy
- Water conservation
- Laboratory and data center design
- Operations and maintenance best practices
- Metering
- Efficient products and emerging technologies
- Intra-EERE (Office of Energy Efficiency and Renewable Energy) coordination

**Decision Support Services:** This group continuously works to improve the quality of Department of Energy (DOE) and inter-agency planning, reporting, and communication processes through:

- Inter-agency coordination and Memoranda of Understanding
- Rulemaking and regulations
- Strategic planning
- Annual Reporting
- Energy awareness and public engagement
- Budget planning, analysis, and reporting
- Customer service management and planning
- Collection and dissemination of “lessons learned”

FEMP also has a new customer service representative matrix that overlays this structure. Please read more about FEMP's new agency customer service representatives on page 8.

*For more information, please contact Hayes Jones, FEMP, at [hayes.jones@ee.doe.gov](mailto:hayes.jones@ee.doe.gov) or 202-586-8873.*

# Fort Meade Demonstrations Test New Lighting Technologies

Demonstration projects at Fort George G. Meade, Maryland substituted light-emitting diode (LED) lighting for incandescent bulbs in commissary walk-in freezers and fiber optic lighting in reach-in display cases. The goal was to reduce energy consumption, and the results were positive in more ways than one.

## LEDs in Freezer Rooms

To support the high business volume, the Fort Meade commissary has several large walk-in freezer storage rooms in the rear of the building. A typical 35-by-47 foot freezer storage room is kept at minus 15°F and is designed to accommodate large pallets of frozen food, including ice cream products.

The freezer lighting system consists of 36, 100-watt gel-coated incandescent lamps in globe-type enclosed fixtures mounted on the ceiling. The storage rooms are very busy and thus consume considerable energy. Conventional lighting and refrigeration systems typically work against each other in such facilities. Lighting systems generate heat, which the refrigeration system must remove. In addition, lower temperatures typically reduce the efficacy (lumens/watt) of lighting systems. Thus, more power is required to generate the desired illumination, which in turn increases the load on the refrigeration system.

Therefore, to reduce lighting and refrigeration energy consumption while also reducing maintenance requirements, the incandescent lights were replaced with 36, 15-watt white LED fixtures. The LED lights offer several advantages over the incandescent lamps. Specifically, the new LED lighting system provides more than 10 footcandles of illumination on the floor, an improvement over the incandescent lamps, and lighting power is reduced by 85 percent—from 3,600 watts to 540 watts.

In addition, the cold storage environment improves the efficacy of the LED light source since heat dissipation is improved. Unlike conventional lamps, the light output of LEDs improves in cold climates. At minus 15°F, the light (lumen) output of the LED light is about 18 percent greater than at normal room temperatures.

The new LED lights are expected to provide more than five years of useful service. This contrasts with the old incandescent lamps, which needed to be replaced more than eight times each year. Changing burned-out lamps in a minus 15°F environment is an unpleasant task that can be done far less frequently, and significant labor is saved because the frozen foods do not need to be shifted to allow safe access to the overhead fixtures.

## Fiber Optics in Display Cases

The Defense Commissary Agency and the Fort Meade commissary also sought to demonstrate a new fiber optic lighting technology in a series of vertical reach-in freezer display cases. The display case lighting system consists of 87, F40 T-8 (60-inch) fluorescent lamps with customized electronic rapid-start ballasts mounted inside the conditioned space of the display case. A digital control system regulates the operation of the lights. Operating hours vary based on the day of the week, but average more than 94 hours per week. As in the freezer storage rooms, conventional lighting and refrigeration systems typically work against each other in refrigerated display cases. Lamps and ballasts generate heat, which the refrigeration system needs to remove. Also similar to the freezers, lower temperatures reduce the efficacy of the lighting system.

To reduce energy consumption, a new system using fiber optics replaced the old fluorescent lighting technology. The

Before and after: incandescent light fixtures in a Fort Meade commissary freezer room were replaced with new 15-watt LED lights



Photo by Steven Parker, PNNL



Photo by Energy Focus Inc.

## FORT MEADE DEMONSTRATIONS TEST NEW LIGHTING TECHNOLOGIES

(Continued from page 12)

fiber optic lighting system uses a remote source light. Light is channeled into a fiber optic distribution system and emitted into the space by an illuminator. The illuminator uses optics designed to match the application to cast light on the product.

The existing lamp/ballast system was monitored for three months before the fiber optic lighting system was installed in the display cases. The new lights and refrigeration system were monitored for an additional two months after the installation. This monitoring indicated that the fiber optic lighting system required less overall power and energy. Measured lighting power was reduced by 54 percent—from 4,968 watts to 2,281 watts.

Full reports on these demonstrations can be found on the Federal Energy Management Program Web site at <http://www.femp.energy.gov/information/publications.html#lighting>.

For more information, please contact Steven Parker or Graham Parker of Pacific Northwest National Laboratory at [steven.parker@pnl.gov](mailto:steven.parker@pnl.gov), 509-375-6366, or [graham.parker@pnl.gov](mailto:graham.parker@pnl.gov), 509-375-3805.



Fiber optic lighting installed in commissary reach-in freezer display cases. Photos by Steven Parker, PNNL.

# Spring 2009 Energy Training and Certification Opportunities

## Association of Energy Service Professionals Spring Implementation Conference and Expo 2009

*The Secrets to Successful Energy Efficiency Program Implementation*  
April 27-29, 2009  
Charlotte, NC  
<http://aesp.org/cde.cfm?event=234090>

## AIA Public Architects Training Workshop

April 29, 2009  
San Francisco, CA  
[http://info.aia.org/aia/eventsdetails.cfm?pagename=ev\\_patw\\_2009](http://info.aia.org/aia/eventsdetails.cfm?pagename=ev_patw_2009)

## American Institute of Architects 2009 National Convention and Design Exposition

April 30 – May 2, 2009  
San Francisco, CA  
<http://www.aiaconvention.com/live/61/>

## LIGHTFAIR International 2009

May 3-7, 2009  
New York, NY  
<http://www.lightfair.com/lightfair/>

## SOLAR 2009

May 11-16, 2009  
Buffalo, NY  
<http://www.ases.org>

## International Facility Management Association Spring Symposium 2009

May 12-15, 2009  
Charlotte, NC  
[http://www.ifma.org/learning/events/spring09\\_sym.cfm](http://www.ifma.org/learning/events/spring09_sym.cfm)

## International Green Roof Congress

May 25-27, 2009  
Nurtingen, Germany  
<http://www.greenroofworld.com/EN/congress.html>

## Federal Environmental Symposium

<http://www.fedcenter.gov/symposia2009/>

## Symposium West

June 2-4, 2009  
Greater Seattle Area, WA

## Symposium East

June 16-18, 2009  
National Institutes of Health  
Bethesda, MD

## American Public Power Association 2009 National Conference

June 13-17, 2009  
Salt Lake City, UT  
<http://www.appanet.org/events/annualeventdetail.cfm?ItemNumber=23652>

## ASHRAE 2009 Annual Conference

June 20-24, 2009  
Louisville, KY  
<http://www.ashrae.org/events/page/1630>

## Comprehensive 5-Day Training Program for Energy Managers

April 20-24, 2009 in Dallas, TX  
May 4-8, 2009 in Ft. Lauderdale, FL  
June 22-26, 2009 in Long Beach, CA  
<https://www.aeecenter.org/seminars/>

## Greenbuild 2009

November 11-13  
Phoenix, AZ  
<http://www.greenbuildexpo.org>

# Labs21 2009 Annual Conference



## HAS TRYING TO GO GREEN MADE YOU BLUE?

ARE YOU LOOKING FOR WAYS TO SAVE money on your high-tech facility's utility bills? Are you struggling to meet federal requirements such as those issued in the Energy Independence and Security Act of 2007? Or are you simply trying to do your part to create a more sustainable building? The International Institute for Sustainable Laboratories (I<sup>2</sup>SL) can help you find the answers to these questions and more.

Meet and interact with a community of laboratory architects, engineers, builders, owners, and other high-tech building professionals in September 2009 at the Laboratories for the 21st Century (Labs21@) 2009 Annual Conference. The event, co-sponsored by I<sup>2</sup>SL, offers a forum for facility professionals like you to discuss the challenges and trends in energy-efficient and environmentally sustainable high-tech facility development. Visit the I<sup>2</sup>SL Web site for the latest details: <[www.i2sl.org/labs21/conference/conference.html](http://www.i2sl.org/labs21/conference/conference.html)>.

Indiana Convention Center  
Indianapolis, Indiana  
September 22-24, 2009

Exhibitor registration is now open!

Call for Presenters abstracts are due **March 25!**

[www.i2sl.org](http://www.i2sl.org)

I<sup>2</sup>SL offers several opportunities for you to explore and participate in the Labs21 2009 Annual Conference, including:

- **2009 Call for Presenters:** All abstracts are due by March 25. Visit the I<sup>2</sup>SL Web site for more information: <[www.i2sl.org/labs21/conference/call.html](http://www.i2sl.org/labs21/conference/call.html)>.
- **2nd Annual Go Beyond Awards:** Nomination criteria will be released in April 2009. Visit <[www.i2sl.org/labs21/conference/awards.html](http://www.i2sl.org/labs21/conference/awards.html)> for the latest awards updates.

Get regular updates on these and other exciting activities coming from I<sup>2</sup>SL in 2009. E-mail [labs21@i2sl.org](mailto:labs21@i2sl.org) to receive I<sup>2</sup>SL's new E-newsletter, or visit I<sup>2</sup>SL's Web site for more information: <[www.i2sl.org](http://www.i2sl.org)>.



The Labs21 program is co-sponsored by the U.S. Environmental Protection Agency and U.S. Department of Energy. I<sup>2</sup>SL has been selected as the official co-sponsor for the Labs21 2009 and 2010 Annual Conferences and Workshops.

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**CHICAGO SSA DEMONSTRATES SUCCESS USING UESC  
AND ESPC**  
*(Continued from page 6)*

One of the notable ECMs involved retro-commissioning of the entire building. The SSA was one of the first buildings in Chicago to undergo retro-commissioning, and was likely the first to incorporate retro-commissioning as an energy conservation measure under a Super ESPC delivery order.

In retro-commissioning, an existing building's automation systems are updated to reflect changes in the building since its original construction, changes in its usage, and the installation of control system upgrades now available due to improvements in technology. Engineers reduced first year energy usage by more than one million kWh by optimizing the more than 14,000-point building automation system (BAS). This system exercises more efficient control of the chilled water and hydronic heating systems, variable air volume set points, demand control ventilation, and lighting controls.

Along with the UESC and ESPC projects, the SSA also direct-funded the installation of low flow water fixtures and waterless urinals that will save 2 million gallons of water each year.

The projects implemented at the Harold Washington Social Security Center show how a combination of simple ECMs applied in a building can provide a larger electrical load reduction than, say, any single solar installation. ESCOs with comprehensive expertise in the full range of ECMs — combined with the required financial depth and strength — can offer an “ECM portfolio,” a combination of technologies most likely to produce optimal energy savings results.

A comprehensive approach to implementation of energy savings measures is more likely to be self-funding and more cost-effective than piecemeal installation of ECMs. By envisioning bigger projects involving multiple technologies, agencies are more likely to deliver compelling environmental, financial, and facility modernization results.

*For more information, please contact Larry Smith, SSA, at [larry.g.smith@ssa.gov](mailto:larry.g.smith@ssa.gov) or 312-575-4146.*



*The Federal Energy Management Program (FEMP) facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.*



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