FEMP FOCUS

Meeting the Goal

U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy

Spring 2008

IN THIS ISSUE, You Will Find. . .

Look For a Special Issue on Energy Efficiency in Summer 2008

Earth Day is April 22nd. *See page 15.*

Renewable Energy Guidance Released

On February 6, 2008, the Department of Energy's (DOE's) Federal Energy Management Program (FEMP) released its Renewable Energy Requirement Guidance for the Energy Policy Act of 2005 (EPACT 2005) and Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. The guidance outlines the requirements of EPACT 2005 and EO 13423 as they relate to renewable energy. It includes updated definitions of qualified renewable energy sources, information on how to deal with Renewable Energy Certificates (RECs), and the circumstances under which new and old sources can be counted towards requirements.

Section 1 explains the authority for the guidance and the renewable energy goal. It includes the mandate under EO 13423 that at least half of the requirement must be met with energy from renewable sources placed in service after January 1, 1999.

Section 2 defines the renewable energy technologies and products that agencies can use to meet the goals. It includes sections on biomass, waste to energy (including municipal solid waste and refuse-derived fuels), landfill gas, geothermal, solar, wind, incremental hydropower, hydrokinetic energy and RECs.

EPACT 2005's wording dictates that only electricity from renewable energy counts towards meeting the EPACT 2005 goal. However, in a change to the August draft guidance, non-electric sources of renewable energy may now be used to meet the EO 13423 requirement that 50 percent of required renewable energy must come from new sources installed after January 1, 1999. These projects may be reported as progress toward the Executive Order requirement.

Section 3 explains requirements for qualifying projects or purchases, including:

- renewable energy must be consumed by a Federal agency;
- double counting of renewable energy attributes is prohibited, thus requiring care when RECs or state renewable portfolio standards (RPSs) are involved;
- key attributes and requirements that agencies must consider when using or trading RECs to meet the goal;
- grandfathering provisions to help agencies transition to the new requirements;
- bonuses that agencies can receive for consuming electricity from projects that produce renewable energy on Federal or Indian lands;
- non-electric renewable energy is not eligible for the bonus; and

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U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

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Cover Magnifying Glass Photo:

A 48-panel photovoltaic array contributes 10 kilowatts of green power at the Environmental Protection Agency's Region 8 Office in Denver, Colorado.

Leading by example, saving energy and taxpayer dollars in federal facilities

Greetings from FEMP's Program Manager: Scott Richlen

Dear Colleagues,

I am pleased to introduce myself as the new Acting Program Manager of the Federal Energy Management Program (FEMP). In my short time with FEMP, I have been impressed by Federal agencies' successes in energy management and their strong motivation to do their part in making America more energy efficient. It is an honor for FEMP to facilitate this through its leadership, technical support, communications, and reporting activities in service to the Federal energy community.

This issue of the *FEMP Focus* highlights many of the Federal government's impressive accomplishments in energy efficiency and renewable energy measures. From DOE's "Transformational Energy Action Management" (TEAM) Initiative to GSA's Achievements in Denver, Government agencies are working hard to reduce the Federal energy bill and increase the use of renewable energy. Also in this issue of *FEMP Focus*, you will find information on training sessions, Web casts, Webinars, and videos that FEMP offers. Other articles illustrate how FEMP serves the Federal energy community. A case study of Patrick Air Force Base identifies best practices. We also include articles that cover renewable energy guidance and the Energy Independence and Security Act. These will help educate *Focus'* readers about legislative issues.

The year 2007 was an important one for the Federal energy community. Last summer brought another successful GovEnergy conference along with Secretary Bodman's announcement of the DOE TEAM Initiative. The year ended with a new energy bill, the Energy Independence and Security Act, which presents new challenges and opportunities for FEMP and others interested in Federal energy management.

Scott Richlen, Acting Program Manager of FEMP.

The Federal energy community's response to these and other new challenges has been impressive thus far, and FEMP is currently redesigning its products, its processes, and itself to better serve you in meeting these opportunities.

With your help, 2008 will build on the momentum of past years to further reduce the Federal government's reliance on nonrenewable energy sources. With new Federal requirements and ever higher goals in mind, FEMP is working to improve its role as a customer service organization to better serve innovators, researchers, entrepreneurs, and Government employees such as you.

Scott Richlen
Acting Program Manager of FEMP

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DOE Forum Presents Renewable Energy Business Opportunities at its Facilities

On February 12, 2008, the Department of Energy (DOE) held a Renewable Energy Forum in Washington, D.C. at DOE's Forrestal Headquarters. The event was organized by the Office of Energy Efficiency and Renewable Energy as a forum to discuss a Request for Information (RFI) for developing on-site renewable projects at U.S. DOE facilities. The Forum attracted more than 175 participants, with standing-room only for the opening session.

The RFI addresses renewable project types from across the spectrum, including photovoltaics, concentrated solar power, solar thermal, biomass, geothermal and small wind. Large wind projects at DOE sites are being addressed by a separate RFI. The Forum sought to provide attendees with background information on DOE's goals and available financial mechanisms. In return, DOE hopes the Forum and RFI process will attract input from the renewable energy industry on how to streamline the procurement process for any future solicitations. Afternoon breakout sessions focused on the five renewable technologies targeted by the RFI.

The strong response to this Forum represents the private sector's interest in public sector renewable projects and the opportunity for increased collaboration between the two. Organizers hope that holding this Forum will increase the number of eventual project proposals, improve their quality, and decrease unforeseen costs and delays. The enthusiastic participation of both the public and private sectors suggests that such events are a useful component of the renewable energy project planning process. Moreover, the success of the Forum presents opportunities for replication across the Federal agencies, and for helping reach other goals of Executive Order 13423, such as those that apply to Federal fleets. For more information on the event, its outcomes, and the associated RFI, please visit http://www1.eere.energy.gov/femp/renewable_energy/renewable_forum.html.

Representatives of the renewable energy industry listen to EERE Principal Deputy Assistant Secretary John Mizroch discuss plans for on-site renewable projects.

If you would like to learn more about the value of such forums, or to determine if such an event would help your agency achieve its goals, please contact Matt Gray of FEMP at matthew.gray@ee.doe.gov.

RENEWABLE ENERGY GUIDANCE RELEASED
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- provisions encouraging long-term contracts (10 years or longer).

Section 4 explains how the credit that agencies currently receive toward their energy reduction goals for renewable energy purchases will gradually phase out. Finally, section 5 discusses reporting.

The treatment of RECs and the bonus for renewable energy produced on Federal or Indian land raise complex issues. Agencies will be pleased to know that RECs can still be used to meet the requirements of EPACT 2005 and EO 13423, provided their source energy meets the requirements of both (i.e., new and electrical where required). However, RECs may only be counted towards EPACT 2005 and EO 13423 requirements when no other party (including state renewable portfolio standards) "…at the same time claims the renewable energy attributes from renewable energy generation." The guidance also precludes non-energy attributes such as emissions credits or carbon offsets from being separated from the REC and sold.

Many agencies are interested in selling or trading the RECs from on-site projects to help reduce renewable energy costs. Under the new guidance agencies can leverage RECs for financing so long as they retain a REC for each kiloWatt-hour (kWh) of renewable energy they use. This can be accomplished by arranging "swaps" of high-value RECs for lower value RECs. Agencies can use the difference between the high-value RECs and the lower-value RECs to help reduce the costs of their renewable energy. Section 3.2.2 explains REC swapping.

This swap provision is particularly important in the context of the new bonus created by EPACT 2005. Section 203(c) of that law allows Federal agencies to claim a bonus for new renewable energy produced on Federal or Indian lands and used at a Federal facility. This means that for every kWh of renewable electricity

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Utility Partnership Helping Patrick Air Force Base to Meet Energy Goals

The 45th Space Wing at Patrick Air Force Base (AFB) is pursuing its energy goals through an ongoing partnership with Florida Power & Light (FPL). At the request of Patrick AFB, FPL developed a base-wide comprehensive energy program. This program charts a course for improving the base's energy efficiency in five phased projects, and demonstrates that Patrick AFB can exceed their Federal goals for reducing energy use by 2015.

The base, stretching along four miles of Florida's east coast south of Kennedy Space Center, is home to the 45th Space Wing and more than 35 major mission partners and tenants. Patrick AFB is responsible for launching unmanned rockets down the eastern range, and has completed more than 3,350 launches. With 1,900 personnel in about 200 buildings and structures, Patrick's annual energy bill is about $6 million and its peak demand is 19 megawatts.

FPL, the third-largest investor-owned utility in the United States, produces more electricity from renewable wind and solar sources than any other U.S. utility.

FPL and Patrick AFB formed this latest partnership for energy and demand savings in 2000, building on their past success. In 1995 the partners executed a basic ordering agreement—one of the first utility energy services contracts (UESCs) between a utility and federal customer—and through 2000 had invested nearly $10 million in energy improvements such as lighting, generators, and energy management control systems (EMCS).

The cornerstone of the partnership was the development and implementation of the base-wide comprehensive energy program. This program implemented a series of energy, demand, and water savings projects over the entire base. Instead of using a building-by-building or system-by-system approach, this program works holistically through two key elements:

- strategically approaching a base-wide audit of the numerous and varied buildings and energy systems, and
- executing UESCs for projects that show a positive year-10 present net value.

Under this partnership, the audit was completed in 2001 and identified potential savings of almost $1.5 million (71.8 billion Btu and 65,273 therms) and demonstrated the potential to meet Patrick AFB's energy goals. The audit divided the base into five program phases of buildings based on size, location, and technology. Energy-conservation measures (ECMs) considered were a base-wide energy management control system (EMCS), central chiller plants, decommissioning of the steam plant, lighting, ground-source heat pumps, thermal energy storage, renewables, water-saving technologies, building envelope improvements, FPL's load control program, and solar pool heating.

Patrick Air Force Base, Florida

The five program phases will be completed in overlapping two-year periods from 2006 through 2012. The first six months of phase execution will focus on development, the next six on approval and execution of the contract, and the final twelve months on full design and construction.

The $3,780,000 agreement for the Phase-One project was executed in September 2006. Overseen by the 45th Civil Engineer Squadron, the upgrades include connecting chillers from groups of buildings into two chiller loops and reducing the number of chillers from ten to four; expansion and upgrading of the EMCS; and decommissioning of the central steam plant. The

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GSA Goes the Extra Mile in the Mile High City

The Denver Federal Center (DFC) is a sprawling, 4 million-square-foot campus managed by the U.S. General Services Administration (GSA). In the early 1990s, the DFC replaced a central steam plant with satellite boilers. These boilers were not efficient compared to the current standards set by the Environmental Policy Act of 2005 (EPACT 2005) and Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and did not have any emissions reduction measures associated with them.

In the summer of 2006, the DFC responded to the EPACT 2005 requirement that all Federal agencies reduce their annual energy consumption by two percent by replacing 20 out-dated boilers with the latest state-of-the-art, ultra-low pollution, and high-efficiency boilers. In addition to saving energy and money, GSA wanted to demonstrate that new low-emissions boilers could greatly reduce pollution emissions. Although specifying low-emission boilers did not lead to a significant increase in overall project cost, it did generate significant emissions reductions. The project also included installing new high efficiency burners on the boilers in three buildings where full replacement was not practical. Charlie Rienhardt, GSA's Rocky Mountain Region Energy Program Manager, stated, "Our building manager researched burners and was able to demonstrate energy savings with a different, small scale burner replacement project, which ultimately got me thinking about boiler opportunities."

The variety of boilers for the project included 20 pounds-per-minute (PPM) low NOx condensing hot water boilers and 30 PPM low NOx steam boilers ranging from 40 to 200 horse power. The new boilers improved the DFC natural gas consumption efficiency by 21 percent compared to campus data from the previous year's winter season—a year that was much colder. Replacing boilers that are 80 percent or less efficient should generate a life cycle cost analysis payback, usually in 5 to 7 years. The potential impact on facility energy expenditures and emissions is significant. This $2 million project is on track to payback within 4 to 5 years, depending on weather. Not only did this project significantly reduce emissions generated by the DFC, but GSA also recycled more than 66 tons of steel from the replaced boilers.

Below are the projected emission reductions expected as a result of the project:

Total Yearly Emission Reduction			Life Cycle Emission Reductions		
CO2	22,314,150	lbs	CO2	432,001,949	lbs
SO2	180,082	lbs	SO2	3,486,392	lbs
NOx	26,299	lbs	NOx	509,151	lbs

For more information, please contact Charlie Rienhardt at 303-236-8000 ext. 5325 or charles.rienhardt@gsa.gov.

COMPREHENSIVE ENERGY PROGRAM AT PATRICK AIR FORCE BASE SET TO EXCEED ENERGY GOALS
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work will result in significant operations and maintenance savings, as well as avoided capital expenditures of $500,000 for repairing the steam plant building. The upgrades and modifications should save Patrick AFB about 2 million kWh and more than $259,000 per year.

The program's managers expect to benefit in Phases Two through Five from lessons learned in Phase One. To be successful, project development must be a team effort. A formal energy team should comprise representatives of contracting, civil engineering, finance, environmental, legal, and the heating, ventilation, and the air conditioning (HVAC) shop. A comprehensive team ensures that the correct people are available, informed, and ready to review and approve the choice of ECMs, designs, maintenance plans, and other aspects of the project. Such a team can also help provide the coordination necessary to ensure that personnel changes do not undo progress or slow momentum.

Phase Two of the project is now well underway, a notice to proceed having been issued in April 2007. A formal energy team has been identified and feasibility studies are underway for a central chiller plant, advanced metering, further expansion of the EMCS, lighting, and thermal energy storage.

Ongoing partnerships similar to the one between Patrick AFB and FPL are a typical outgrowth of utility energy services contracts between utilities and Federal sites.

For more information, please contact David McAndrew, FEMP, at david.mcandrew@ee.doe.gov or 202-586-7722; Patrick Beverly, Patrick Air Force Base, at patrick.beverly@patrick.af.mil or 321-494-7198; Ed Anderson, Florida Power & Light, at ed_a_anderson@fpl.com or 321-626-1010.

DOE's TEAM Initiative Boosts Project Pipeline for Financing

In August 2007, the U.S. Department of Energy (DOE) launched a new initiative to reduce energy intensity across the nationwide DOE complex by 30 percent and save a resulting $90 million in taxpayer money per year. The Transformational Energy Action Management (TEAM) Initiative will dramatically transform DOE's energy, environmental, and transportation management. The TEAM Initiative aims to meet or exceed the aggressive goals for increasing energy efficiency throughout the Federal government already laid out by President Bush. By fundamentally transforming the way DOE manages energy use in its facilities, the TEAM Initiative will leverage every possible public and private resource to improve performance and reduce energy and water costs at DOE facilities over the next few years.

The TEAM Initiative has eight core goals:

- Reduce energy consumption by 30 percent and water consumption by 16 percent in all DOE facilities.
- Acquire at least 7.5 percent of all energy from renewable sources.
- Attain alternative fueling stations for all DOE sites, and replace all conventional fuel vehicles in the DOE fleet with alternative fuel vehicles.
- Attain a LEED Gold standard on all new buildings and on all buildings that go through major renovations.

EERE Assistant Secretary Andy Karsner (left) gets a tour and overview of National Renewable Energy Laboratory facilities from laboratory Director Dan Arvizu.

- Achieve a LEED Gold certification for all new construction and major building renovations in excess of $5 million, and ensure that 15 percent of DOE's current capital asset inventory complies with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*.
- Give preference to bio-based, environmentally friendly sources of energy and water, while reducing the use of hazardous and toxic chemicals and managing the production of waste.
- Develop best practice models for the use of third party financing for energy saving projects.
- Improve the energy efficiency of all data centers by 10 percent by 2011.

The TEAM Initiative requires DOE sites to look beyond traditional means of appropriated funding for major energy projects by maximizing its use of alternative financing tools, including energy savings performance contracts (ESPCs) and utility energy service contracts (UESCs). As of January 2008, DOE has received 15 proposals from energy service companies (ESCOs) that amount to almost $500 million in project investment potential, and expect to receive as many as 10 additional proposals across 14 other DOE sites in the early part of 2008. DOE expects to award the vast majority of these proposals in FY 2008, keeping with the goals of the TEAM Initiative. In addition, DOE is developing alternative fueling stations at two of its largest facilities, Los Alamos National Laboratory and the Nevada Test Site, both of which will provide E85 ethanol for Alternative Fuel Vehicles.

The proposals that DOE has received so far include measures such as advanced lighting, rooftop photovoltaic solar panels, biofuel energy cogeneration facilities, advanced metering, energy saving data center systems, innovative energy management systems, and energy efficient heating and air conditioning systems.

DOE designed the TEAM Initiative to be a replicable model to be used by other Federal agencies. FEMP has developed a program to work with other government agencies to develop programs similar to the TEAM Initiative for use across the Federal government. FEMP estimates that to achieve the goals of Executive Order 13423, as well as the statutory goals of the Energy Independence and Security Act of 2007, the Federal government will need to invest over $1 billion per year in alternatively-financed energy projects.

For more information, please visit www1.eere.energy.gov/team/index.html or contact Kasey Curtis of FEMP at Kasey.Curtis@hq.doe.gov or 202-586-9320.

FDA and NIH Projects Highlighted in New ESPC and UESC Videos

The Federal Energy Management Program has released two new Web-based videos that feature successful examples of public-private partnerships for financing energy efficiency and renewable energy upgrades of Federal facilities. The videos focus on Super Energy Savings Performance Contracts (Super ESPCs) and Utility Energy Services Contracts (UESCs), two rapidly accelerating contracting mechanisms that allow the government to benefit from private sector investment in capital-intensive energy improvements paid for by the resulting energy savings.

Each video is divided into six distinct modules that focus on different aspects of the alternative financing process, from contract planning and award negotiation to project implementation and measurement and verification of results.

One video demonstrates a model Super ESPC construction project. The U.S. Food and Drug Administration (FDA) initiated a $890 million General Services Administration construction project at the site of its new headquarters—a 1940s-era Navy base in White Oak, Maryland. Using a wide range of energy efficiency measures and solar energy financed by private-sector dollars, it has led to one of the government's largest Super ESPC projects. Learn how you can apply the FDA's energy management performance model to your Federal agency's construction or building renovation project by watching the video modules on FEMP's Web site at www.eere.energy.gov/femp/financing/superespcs_fda.html.

FDA White Oak Campus, Silver Spring, MD

National Institutes of Health, Bethesda, MD

In another video, the National Institutes of Health (NIH) showcases UESCs. NIH estimates that it has saved at least $5 million annually in energy costs at its main campus in Bethesda, Maryland—the world's largest medical research facility. By drawing on resources offered by its local gas and electric utilities, the dollar savings allow more agency funds to be spent directly on medical research. Find out how your Federal facility can also benefit from a UESC by visiting www.eere.energy.gov/femp/financing/uescs_nih.html to watch the video.

In addition to viewing the videos on FEMP's Web site, limited copies are also available on DVD by calling the EERE Information Center at 1-877-337-3463.

Selling Energy-Efficient Products to the Federal Government

The U.S. Government is a major purchaser of products from suppliers throughout the country. Selling to the Federal government is an important outlet for many manufacturers and distributors, from large corporations to small businesses. This updated reference guide, entitled *Selling Energy-Efficient Products to the Federal Government,* provides basic information about how to do business with the Federal government. NOTE: Following the procedures outlined in this guide does not guarantee that work will be awarded to a firm.

To download a copy of this updated guide please visit FEMP's Web site at: www.eere.energy.gov/femp/pdfs/selling_eeproducts_to_gov.pdf.

Energy Independence and Security Act of 2007: Major Provisions of Interest to Federal Energy Managers

On December 19, 2007, President Bush signed into law the Energy Independence and Security Act of 2007 (EISA, P.L.110-140). This article provides brief summaries of those sections of EISA most applicable to Federal energy managers according to general subject area. This article is intended as a reference only; you should refer to the text of the law for more details or other sections relevant to your work.

Facilities

Energy Reduction Goals for Federal Buildings

Section 431 of EISA amends Section 543(a)(1) of the National Energy Conservation Policy Act (42 U.S.C. 8253(a)(1)) and adopts the energy intensity reduction goals of Executive Order 13423 beginning in the year 2008. The amended NECPA section reads as follows:

> **"SEC. 543. ENERGY MANAGEMENT REQUIREMENTS.**
>
> (a) ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS.—(1) Subject to paragraph (2), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2006 through 2015 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2003, by the percentage specified in the following table:

Fiscal Year	Percentage reduction
2006	2
2007	4
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30."

Facility Management/Benchmarking

Section 432, Management of Energy and Water Efficiency in Federal Buildings, amends Section 543 of NECPA, and establishes a framework for facility project management and benchmarking. Under this new requirement, agencies must identify all "covered facilities" that constitute at least 75 percent of the agency's facility energy use. A covered facility may be defined as "a group of facilities at a single location or multiple locations managed as an integrated operation." An energy manager must be designated for each of these covered facilities. Each facility energy manager will be responsible for:

- Completing comprehensive energy and water evaluations (including re-/retrocommissioning) of 25 percent of covered facilities each year, so that an evaluation of each such facility is completed at least once every four years.
- Implementing of identified energy and water efficiency measures; bundling of individual measures of varying paybacks into combined projects is permitted.
- Following up on implemented measures, including fully commissioning equipment, putting in place O&M plans, and measuring and verifying energy and water savings.

Under Section 432, DOE is directed to issue guidelines on designating energy managers and criteria for covered facilities (due June 16, 2008) and guidelines for project implementation and follow-up measures (due December 19, 2008). The energy manager at each facility is directed to use a web-based tracking system (deployed by DOE) to certify compliance for energy and water evaluations, project implementation and follow up of measures, and estimated cost and savings of measures. The web-based tracking system will be available to Congress, other Federal agencies, and the public, with some specific data exempted from disclosure for national security purposes.

In addition to employing the web-based tracking system, energy managers shall enter energy use data for each metered building into a benchmarking system, such as the Energy Star Portfolio Manager. DOE must select or develop the benchmarking system and issue guidance for its use by December 19, 2008.

OMB is responsible for issuing semiannual energy management scorecards based on the requirements of EISA Section 432 and make these scorecards available to Congress, other Federal agencies, and the public.

Finally, Section 432 authorizes agencies to use appropriations, private financing, or a combination of appropriations and private financing to comply with its requirements.

Performance and Standards for New Building/Major Renovations

Section 323 of EISA, Public Building Energy Efficiency and Renewable Energy Systems, amends Section 3307 of title 40, United States Code, dealing with Congressional approval of

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proposed projects. It requires that the General Services Administration, in transmitting to Congress a prospectus of a proposed facility, must include ". . .an estimate of the future energy performance of the building or space and a specific description of the use of energy efficient and renewable energy systems, including photovoltaic systems, in carrying out the project." In addition, "with respect to space to be leased, [GSA] shall include, to the maximum extent practicable, minimum performance requirements requiring energy efficiency and the use of renewable energy." Lastly, Section 323 adds a section to Chapter 33 of title 40 on *Use of Energy Efficient Lighting Fixtures and Bulbs*. The new section 3313 sets requirements for energy efficient lighting fixtures and bulbs in Federal buildings.

Section 433 of EISA, Federal Building Energy Efficiency Performance Standards, directs DOE to issue revised Federal building energy efficiency performance standards within one year of enactment of Act. The revised standards would specify that ". . .(t)he buildings shall be designed so that the fossil fuel-generated energy consumption of the buildings is reduced, as compared with such energy consumption by a similar building in fiscal year 2003 (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency), by the percentage specified in the following table:

Percentage	Year
55	2010
65	1015
80	2020
90	2025
100	2030"

Section 433 also requires that sustainable design principles shall be applied to the siting, design, and construction of buildings subject to the standards. A certification system and level for green buildings shall be identified by DOE in consultation with DOD and GSA, based on Director of Federal High-Performance Green Buildings (GSA) findings. The section provides specific guidance for developing certification program.

Section 433 directs the Federal Acquisition Regulatory Council to consult with the Federal (GSA) and Commercial (DOE) Directors of Federal High-Performance Green Buildings to revise FAR within 2 years of enactment of the Act to require Federal officers and employees to comply with the Act's provisions regarding acquisition, construction, or major renovations. Not later than 90 days from the issuance of the revised standards, the Office of the Federal Procurement Policy is to issue new guidance providing direction and instructions to renegotiate the design of proposed facilities and major renovations for existing facilities to incorporate improvements that are consistent with Section 433.

Section 434 requires that each Federal agency ensure that major replacements of installed equipment (such as heating and cooling systems), or renovation or expansion of existing space, employ the most energy efficient designs, systems, equipment, and controls that are life-cycle cost effective. Not later June 16, 2008 each Federal agency shall—

"(A) develop a process for reviewing each decision made on a large capital energy investment to ensure that the requirements are met; and

(B) report to the Director of the Office of Management and Budget on the process established."

Section 435 prohibits Federal agencies, effective December 19, 2010, from leasing buildings that have not earned an EPA Energy Star label. Exemptions are provided if:

- no space is available in a labeled building that meets the functional requirements of an agency, including locational needs;
- the agency proposes to remain in a building that the agency has occupied previously;
- the agency proposes to lease a building of historical, architectural, or cultural significance (as defined in section 3306(a)(4) of title 40, United States Code) or space in such a building; or
- the lease is for not more than 10,000 gross square feet of space.

Section 523 requires 30 percent of the hot water demand in new Federal buildings (and major renovations) to be met with solar hot water equipment, provided it is life-cycle cost-effective.

High Performance Buildings

Section 436 of EISA, High-Performance Green Federal Buildings directs GSA to establish a Federal High-Performance Green Building Office and Advisory Committee with a Federal Director to coordinate outreach with other agencies, establish green practices and standards for the Federal sector, review/analyze current Federal budget practices and life-cycle costing issues, certification of new and existing Federal facilities as high-performance green buildings, and make recommendations to Congress. Section 421, Commercial High-Performance Green Buildings, directs DOE to establish a Director and Office of High-Performance Green Buildings (OBT) to coordinate information and outreach activities targeted at the commercial (non-Federal) sector.

Section 439 directs GSA to review the current use of, and design a strategy for increased use of, cost-effective lighting, ground source heat pumps, and other technologies in GSA facilities.

For the purpose of conducting life-cycle cost calculations, Section 441 increases the time period from 25 years, in prior law, to 40 years.

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Energy Savings Performance Contracting

Congress demonstrated its interest in facilitating the use of ESPCs by Federal agencies in EISA's Title V, Energy Savings in Government and Public Institutions, Subtitle B, Energy Savings Performance Contracting. The provisions include the following.

- Section 511 eliminates the advance Congressional reporting requirement for ESPCs that have a cancellation ceiling exceeding $10 million.
- Section 512 increases ESPC funding flexibility by allowing a combination of appropriated funds and private financing.
- Section 513 restricts Federal agencies from limiting the duration of ESPCs to less than 25 years or limiting the total amount of obligations. Further, this section permits the criteria for savings verification to satisfy the requirement for energy audits. Also, it directs Federal agencies to modify existing ESPCs to conform with the requirements of this subtitle.
- Section 514 permanently authorizes ESPCs.
- Section 515 extends the definition of energy savings reduction to include increased use of an existing energy source by cogeneration or heat recovery, use of excess electrical or thermal energy generated from onsite renewable sources or cogeneration, and increased energy-efficient use of water resources.
- Section 516 permits agencies to retain the full amount of energy and water cost savings obtained from utility incentive programs.
- Section 517 authorizes $750,000 per year over five years for a program to train contract officers in negotiating ESPCs.
- Section 518 directs the Department of Defense (DOD) and DOE to study the potential use of ESPCs in nonbuilding applications, which is defined to include vehicles and federally-owned equipment to generate electricity or transport water.

Metering

EISA Section 434(b), Metering, amends Section 543(e)(1) of NECPA (42 U.S.C. 8253(e)(1)) by inserting after the second sentence the following: "Not later than October 1, 2016, each agency shall provide for equivalent metering of natural gas and steam, in accordance with guidelines established by the Secretary under paragraph (2)."

Energy Efficient Procurement

Section 522 prohibits, except under certain circumstances, the purchase of incandescent light bulbs for use in Coast Guard office buildings.

Section 524 encourages federal agencies to minimize standby energy use in purchases of energy-using equipment.

Section 525 requires Federal procurement to focus on use of Energy Star and Federal Energy Management Program (FEMP)-designated products.

Section 526 prohibits Federal agencies from procuring synfuel unless its life cycle GHG emissions are less than those for conventional petroleum sources.

OMB Reporting

Section 527 directs each Federal agency subject to any requirements under this title to issue an annual report that describes the status of initiatives to improve energy efficiency, reduce energy costs, and reduce greenhouse-gas emissions. Section 528 requires the Office of Management and Budget (OMB) to submit an annual report to Congress that summarizes the information reported under Section 527, evaluates overall progress toward the goals of Section 527, and recommends additional actions needed to meet those goals.

Federal Fleets

EISA Title I, Energy Security Through Improved Vehicle Fuel Economy, Subtitle C, Federal Vehicle Fleets, Section 141 amends Section 303 of the Energy Policy Act of 1992 (42 U.S.C. 13212). It includes definitions for: Federal agency, Medium Duty Passenger Vehicle, and Member's Representational Allowance and prohibits Federal agencies from acquiring any light-duty motor vehicle or medium-duty passenger vehicle that is not "a low greenhouse gas emitting vehicle" as defined in this subtitle. Alternatively, the agency may demonstrate that it has adopted cost-effective policies to reduce its petroleum consumption sufficiently to achieve a comparable reduction in greenhouse gas emissions.

Under EISA Section 142, Federal agencies are required to achieve by 2015 at least a 20 percent reduction in annual petroleum consumption and a 10 percent increase in annual alternative fuel consumption. The petroleum reduction and alternative fuel increase are to be calculated from a 2005 baseline. Interim milestones will be established by DOE and agencies will report annually on their progress. The regulations governing this program are required to be issued not later than 18 months after enactment.

Section 246, Federal Fleet Fueling Centers, directs each agency to install at least 1 renewable fuel pump at each Federal fleet fueling center by 2010 and requires annual reporting to Congress on agency progress in complying with this requirement.

Department of Energy Finalizes Regulations to Increase Energy Efficiency in New Federal Buildings by 30 Percent

The U.S. Department of Energy (DOE) has established regulations requiring new Federal buildings to achieve at least 30 percent greater energy efficiency over prevailing building codes, if life-cycle cost-effective. Mandated by the Energy Policy Act of 2005 (EPACT 2005), these standards apply to new Federal low-rise residential buildings and commercial and multi-family high-rise residential buildings for which design for construction began on or after January 3, 2007. These standards are also about 40 percent more efficient than the old Code of Federal Regulations (CFR).

Specifically, these standards replace existing Federal building energy efficiency standards found in 10 CFR Part 434 (for commercial and high-rise multi-family residential buildings) and 10 CFR Part 435 Subpart C (for low-rise residential buildings). The new Federal standards are in 10 CFR Part 433 (for commercial and high-rise multi-family residential buildings) and 10 CFR Subpart A (for low-rise residential buildings). They are based on the American National Standards Institute / American Society of Heating, Refrigerating, and Air-Conditioning Engineers / Illuminating Engineering Society of North America Standard 90.1-2004 for commercial and high-rise multi-family residential buildings and the 2004 version of the International Code Council's International Energy Conservation Code for low-rise residential buildings.

"Dramatically elevating building efficiency standards to these unprecedented levels substantially transforms the way the Federal government manages and uses energy," DOE Assistant Secretary for Energy Efficiency and Renewable Energy Andy Karsner said. "These standards contribute to sound and stable efficiency policy that will yield real, substantive energy savings and reductions in greenhouse gas emissions."

Over the course of the next ten years, these standards are estimated to save taxpayers $776 million dollars (in 2004 dollars) and more than 40 trillion British thermal units of energy, while reducing emissions by an estimated 2 million metric tons of carbon dioxide.

Three key features of these new standards differentiate them from previous Federal building energy efficiency standards. First, the new Federal standards are based directly upon the updated and prevailing voluntary sector standards in effort to maximize resources and take advantage of improvements in those voluntary sector standards. Second, the new Federal standards seek improvements above and beyond those of the voluntary sector standards through consideration of an entire building's performance, rather than on prescriptive requirements for individual building components and systems. This approach provides the maximum amount of flexibility to Federal agencies and their design teams as they address the new requirements. Third, the new Federal standards require at least 30 percent energy savings over the prevailing voluntary sector standard. Achieving this level of savings will require Federal agencies and their design teams to use an integrated design approach for new buildings.

Section 305(a)(1) of the Energy Conservation and Production Act, as amended by EPAct, directed DOE to implement these regulations. Section 109 of EPACT 2005 also requires the use of cost-effective sustainable design principles and water conservation technologies. DOE is expected to issue a notice of proposed rulemaking on these additional requirements this year.

For more information, please contact Cyrus Nasseri of FEMP at cyrus.nasseri@ee.doe.gov or 202-586-9138.

Water Guidance for EO 13423 Released

The newly released guidance for implementing the water efficiency requirements of Executive Order 13423 provides clarification and guidance to achieve the water reduction goals of section 2(c) of the EO and EO Implementing Instructions.

Beginning in 2008, Federal agencies must reduce water consumption intensity through life-cycle cost-effective measures, relative to the baseline of the agency's water consumption in FY 2007 by 2 percent annually through the end of FY 2015 or 16 percent by the end of FY 2015.

This guidance was developed to assist in the interpretation of, and ultimate compliance with, EO 13423. Specifically, three key elements of compliance were identified and presented: baseline development, efficiency opportunity identification/ implementation, and necessary reporting. For each key area, this document provides EO 13423 interpretation, suggests a path forward, and provides resources for additional information.

The guidance is now available on the FEMP Web site at www1.eere.energy.gov/femp/pdfs/water_guidance.pdf.

Labs21 Conference to Explore Sustainability in the Heart of the Silicon Valley

The U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), and International Institute for Sustainable Laboratories (I²SL) co-sponsor the Laboratories for the 21st Century (Labs21®) 2008 Annual Conference. Known as the premier laboratory sustainability conference in the nation, the Labs21 Conference provides a unique forum for industry leaders and professionals to discuss the challenges and opportunities facing sustainable laboratory design, construction, and operation worldwide.

Organizers expect this year's Labs21 Conference to draw more than 700 Federal representatives, architects, engineers, facility managers, builders, and laboratory owners from around the world. The event will take place from September 16-18 at the San Jose McEnery Convention Center in San Jose, California.

Labs21 is recognized as a program that Federal agencies can use to create more sustainable facilities. In the Implementation Guidance for Executive Order 13423, agencies are directed to use Labs21 as a resource to encourage the development of sustainable, high-performance, and low-energy laboratories nationwide. The U.S. Green Building Council recently ruled that designers can use the Labs21 benchmarking tool to determine the number of LEED® energy efficiency points in its LEED® for Existing Buildings rating system. Additionally, DOE encourages its National Laboratories to participate in Labs21 through its new directive, DOE Order 430.2B, *Departmental Energy, Renewable Energy, and Transportation Management*. The Order states that DOE must use programs such as Labs21 to encourage the development of sustainable, high performance, and low-energy laboratories. Attendees at this year's conference will be given the opportunity to explore the strategies Labs21 offers for creating sustainable facilities and meeting the requirements of these orders.

The conference agenda will feature informative technical and poster sessions and a series of topic-specific, half-day symposia. Topics will range from efficient air management systems and carbon-neutral laboratories to project financing, Executive Order 13423, and its implications for laboratory design and operation. The event will also feature a Technology and Services Fair, which will showcase innovative products and services from more than 60 vendors. Conference attendees will have the option to attend pre-conference training workshops and evening tours.

New to this year's conference—thanks to collaboration between I²SL and several Bay Area organizations including the Lawrence Berkeley National Laboratory, the Critical Facilities Round Table, and the Silicon Valley Leadership Group—will be a full track of sessions and panel discussions, a workshop, and a tour dedicated to data centers. These facilities store large volumes of information under strict environmental operating conditions. Data centers' continuous operation, strict operating conditions, and the demand for energy security and reliability combine to create significant energy requirements. This track will apply the Labs21 approach to data centers, allowing the information technology and laboratory communities to exchange their sustainable design and engineering experiences and accomplishments.

For more information on the Labs21 2008 Annual Conference, please visit the Labs21 Web site at www.labs21century.gov/conf.

FEMP Industrial Facilities Initiative Provides Tools to Reduce Industrial Sites' Energy Use

The Department of Energy's (DOE's) Industrial Technologies Program and FEMP partnered to create the FEMP Industrial Facilities Initiative. This initiative, led by Melissa Madgett of Oak Ridge National Laboratory, provides tools, training, and plant-wide assessments to improve the energy efficiency and productivity of industrial facilities at Federal sites. The initiative's latest Web-based training for Federal facilities took place in September 2007 and was a huge success, training 138 attendees to use the DOE Best Practices Chilled Water System Analysis Tool (CWSAT).

A recording of the September 2007 CWSAT Web cast can be viewed at https://www.gotomeeting.com/register/698318757. Contact Melissa Madgett at madgettmg@ornl.gov if you would like to receive two Professional Development Hours for your virtual attendance after viewing the archived Web cast.

The CWSAT software tool allows users to identify energy saving opportunities in their chilled water systems. Users input data on their plants' existing equipment and operations, then select energy-saving measures and/or adjust input parameters to see the impact on energy consumption and operating costs. Typical improvements to chilled water systems average $16,000 in cost savings with an average payback of less than two years.

CWSAT and many other software tools are available at the Industrial Technologies Program's BestPractices Web site at http://www.eere.energy.gov/industry/bestpractices/resources.html. The site lists additional training opportunities, publications, and other resources to help reduce energy consumption in the Federal sector.

Energy Assessments at Federal Sites

FEMP's Industrial Facilities Initiative also provides industrial energy assessments to Federal customers. ("Industrial" facilities are those having a large amount of capital equipment and energy use devoted to other than heating, cooling, lighting, ventilation, or service hot water of the facility for the occupants' comfort.) The assessments focus on energy-intensive processes such as production, manufacturing, treatment, refurbishment, destruction, and product testing. The assessments may take a comprehensive look at the entire industrial process or focus on a particular system (steam, process heat, compressed air, fans, etc.), depending upon the needs of the customer. The assessments produce a final report that identifies potential energy and energy cost saving measures and potential productivity improvements, with cost estimates for implementation.

For more information on FEMP's Industrial Facilities Initiative software tools and industrial assessments, please contact Melissa Madgett at madgettmg@ornl.gov or 865-576-3373.

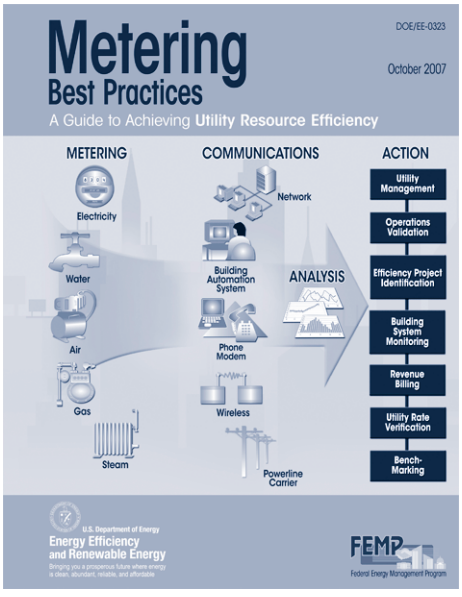
Metering Best Practices Guide Published

FEMP, in conjunction with Pacific Northwest National Laboratory (PNNL), recently published a new metering guide designed to provide information on effective metering strategies as they apply to systems and equipment typically found at Federal facilities.

Metering Best Practices—A Guide to Achieving Utility Resource Efficiency provides facility/energy managers and practitioners with useful information about energy and resource metering, the relevant metering technologies, communications, applications for data, and ideas for energy and cost savings. In addition, the guide assists in the implementation of metering requirements in accordance with the Energy Policy Act of 2005.

Ab Ream, O&M Team Lead, led the effort for FEMP. The PNNL authors were Greg Sullivan, Ray Pugh, and Dave Hunt. The guide in PDF format is currently available for download from the FEMP Web site at www.eere.energy.gov/femp/information/publications.html#OM.

For more information, please contact Ab Ream, FEMP, at ab.ream@ee.doe.gov or 202-586-7230.



Fleet Card Data Not Accurate Enough for Reporting Fuel Use

Federal fleets have a statutory and regulatory duty to measure and report the use of alternative fuels under the provisions of the Energy Policy Act of 2005 and Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. The majority of Federal fleets purchase alternative fuels at commercial retail sites using General Services Information (GSA) SmartPay® contracted fleet cards. These fleet cards collect extensive data regarding fleet operations and refueling—including fuel type—from retailer point of sale (POS) equipment.

However, Federal fleet managers cannot use reports available from fleet card companies to demonstrate compliance with the requirements to use alternative fuels in alternative fuel vehicles, because fuel type reporting from retailer POS systems is only accurate 40 to 50 percent of the time.

Two recent surveys of alternative fuel purchases by Federal fleets highlighted the challenge encountered by Federal fleets in reporting compliance. The GSA refueled with E85 at 217 sites; only 73 transactions had the correct fuel code. LMI Government Consultants review of biofuels use for the Department of Defense concluded for fiscal year (FY) 2006:

- 82 percent of E85 purchased at commercial stations was incorrectly coded, most as either gasoline (59 percent) or marine fuel (19 percent).
- 59 percent of E85 transactions (by volume) reported to GSA by commercial stations are actually gasoline or diesel.
- 94 percent of B20 transactions are coded correctly, [but] only 4 percent of stations that sell B20 actually code the fuel correctly.
- 92 percent of commercial stations that report selling B20 do not sell the fuel.

Vista Consultants interviewed the petroleum retailing industry, alternative fuel providers, fleet card issuers, network operators, POS manufacturers, card processors, and trade associations to identify the source of fuel reporting problems and propose a solution. What emerged was a picture of an industry with fiercely independent merchants, extremely varied transaction pathways, multiple opportunities to mistranslate codes from one system to another, and no common standard for coding alternative fuels or, for that matter, conventional fuels. However, some common themes became apparent.

- Every card system has its own proprietary requirements for transaction data; every card accepted by a retailer requires different program conditions in the POS.
- The retailer, or the retailer's contracted POS installer, creates the majority of fuel type coding errors in the on-site POS set up.
- Once established, the retailer rarely has further visibility of the codes used and never sees what the customer receives at the end of the transaction system.
- No regulatory agency has oversight responsibility to ensure that the correct product information is printed on the POS receipt or available to fleets at the conclusion of the transaction.
- Only the customer can identify transaction errors. It is the customer's responsibility to notify the retailer that the coding is incorrect. However, there is no requirement that the retailer fix the coding.
- Some code translation errors occur between nodes in the financial system outside the control of the retailer; however, every indication is that these are rare.
- POS installers do not understand the differences between gasohol, 5.7 percent ethanol blends, and E85. Gasoline specification changes from the use of MTBE to ethanol as an oxygenate have resulted in some stations reporting sales of ethanol (E85) when in fact the product sold was E10 (gasohol).

There is no "silver bullet" solution to the problems associated with fuel type coding. However, Vista Consultants identified a number of concurrent actions that can begin to address the issue and resolve it over time. A process is required to get the data, analyze the data, advise the fleet card company and the retailer of problems, and follow up on the progress in correcting the fuel coding. An active outreach program to the merchants, networks, manufacturers, and card processors is also recommended.

These actions would require new work for the fleet and program managers in Federal agencies who must now track—at least periodically—the data provided at both ends of fleet card clearing transactions. A Federal fleet-wide approach to collect data on incorrect fuel reporting is called for. However, the analysis of data and actions taken would be more consistent and efficient if consolidated with one agency or contractor.

Federal fleet managers should encourage the retail alternative fuels industry to remedy the reporting issues cited in this report. The alternative is to accept the status quo. The resolicitation of agency task orders under the SmartPay®2 contract provides an opportunity to manage the refueling of flexible fuel vehicles through hose level authorization controls and other purchase card management policies. In any case, SmartPay®2 contract task orders should include provisions that allow the dispute of billing transactions that do not include the proper fuel codes.

This article is the Executive Summary of a larger report, Fleet Cards – Reporting of Alternative Fuels, developed by Vista Consultants. For more information, please contact Marc McConahy, Vista Consultants, LLC, at Marc.McConahy@verizon.net.

New Technology Publications Available on the FEMP Web Site

The Federal Energy Management Program recently published four additional New Technologies publications that are available on the FEMP Web site.

Summary of Results from Testing a 30-kW-Microturbine and Combined Heat and Power (CHP) System. This *Federal Technology Alert* summarizes the results of a series of CHP system tests performed at the Oak Ridge National Laboratory CHP Integration Test Facility. The tests were performed using a 30-kW microturbine and thermally activated technologies (TATs) including an indirect-fired, single-effect absorption chiller, direct- and indirect-fired desiccant dehumidifiers, and an air-to-water heat exchanger. The document's target audience is energy managers who are considering installation of a microturbine-based CHP system. The document reports test results for an individual microturbine or one integrated with TATs.

Field Testing of Pre-Production Prototype Residential Heat Pump Water Heaters. This *Technology Focus* provides an overview of the field testing of 18 pre-production prototype units of a "drop-in" type residential heat pump water heater installed in a wide variety of host home situations across the United States for more than one year. It gives descriptions of the construction, installation, control, instrumentation, and data acquisition methodologies employed with the units, as well as interpretations of the measured results.

Wireless Temperature Sensors for Improved HVAC Control. This *Technology Installation Review* describes the installation of a wireless temperature sensor network at the U.S. Environmental Protection Agency National Health and Environmental Effects Research Laboratory in Duluth, Montana. The objective of the wireless sensor demonstration was to showcase the technology so the experiences with the technology and benefits of the project may be replicated throughout the Federal sector. The lessons learned during the deployment and use of the technology are discussed, as well as operational and energy improvements attributable to the use of the wireless technology.

Energy Savings from Small Near-Zero-Energy Houses. This *Technology Installation Review* provides an overview of the construction and monitoring of four small single-family houses that achieve dramatic reductions in energy consumption and approach the goal of "net zero energy use" that the U.S. Department of Energy's Building Technology Office has set for itself. (A net-zero-energy building is one that produces as much energy from on-site renewable energy as it consumes on an annual basis.) This study discusses the construction methods, building products, appliances and equipment, and data collection methodologies used in the houses and provides data on energy savings gathered through the monitoring effort.

These and many other technology publications are available on the FEMP Web site at www.eere.energy.gov/femp/new_technology/techdemo_publications.html.

Earth Day is April 22: Tap into the Powerful Potential of Energy Efficiency

Energy efficiency is one of the best ways for the Federal government to help America achieve a healthier economy, a cleaner environment, and greater energy security. It is the quickest, least expensive, and cleanest way to extend our energy supplies.

This year's Earth Day theme, *Tap Into the Powerful Potential of Energy Efficiency*, reinforces how each Federal employee can help reverse our nation's dependence on foreign oil and fossil fuels, while helping to protect our vital natural resources. Efficiency means more than the ability to achieve a desired result without wasted effort. With efficiency, we can achieve more productivity, savings, and security.

FEMP's Earth Day poster and accompanying handout materials, including note pads, key tags, and light switch covers, are available in limited quantities beginning April 1, 2008. 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.eere.energy.gov/femp/services/yhtp/.*

Super ESPC Pipeline Surpasses $1 Billion Mark

For the first time since the use of the DOE Super Energy Savings Performance Contract (ESPC) began in 1998, the dollar value of projects in development now exceeds the $1 billion mark. As of January 2008, DOE's Super ESPC Pipeline report, which monitors all ESPC projects undergoing development prior to award, totaled just over $1 billion across all Federal agencies. While the pipeline report reflects initial project proposals and not actual award values, 2008's total ESPC investment is nevertheless expected to significantly exceed previous levels. Under ESPCs, contractors pay the up-front costs for energy efficiency improvements and are repaid through energy savings over the life of the contract.

The value of potential projects greatly increased in FY 2007 due in part to the Department of Energy's Transformational Energy Action Management (TEAM) Initiative, whereby energy service companies (ESCOs) have been deployed across the DOE complex to take full advantage of life-cycle cost-effective energy conservation measures. The TEAM Initiative is designed to be a replicable model of energy management, with practices that can be copied by other agencies to achieve similar results.

The majority of the Federal ESPC projects are being developed at the Department of Defense (48 percent) and the Department of Energy (40 percent). The remaining projects are being developed at the Departments of Justice (6 percent), Health and Human Services (2 percent), Veteran's Affairs (2 percent), and Homeland Security (1 percent).

FEMP estimates that the Federal government will need to sustain a level of ESPC investment over $1 billion through 2015 if the Federal Government is to meet its energy, renewable, water, and environmental management goals mandated by Executive Order 13423 and the Energy Independence and Security Act of 2007.

For more information, please contact Kasey Curtis of FEMP at Kasey.Curtis@hq.doe.gov or 202-586-9320.

Mark Your Calendar! ESPC Training Reminders

Learn how to implement your energy conservation project through the Department of Energy's Super Energy Savings Performance Contracting (Super ESPC).

Introduction to ESPC: This course is intended for an audience who has little or no knowledge of Super ESPCs and may be considering doing a delivery order.
May 20-21, 2008
Boston, Massachusetts

Advanced ESPC/Financing: This course is intended for those who want to gain an in-depth understanding of the Super ESPC process and are currently developing a Super ESPC delivery order.
July 15-17, 2008
Seattle Washington

Super ESPC Web Cast: This course is a condensed version of the Introduction to EPSC, offered through a special three hour Web cast with real-time instructors heard through your telephone and presentations viewed over the Internet.

April 9, 2008
Web cast - 11:00am EDT

May 14, 2008
Web cast - 11:00am EDT

Register on line for these training courses at http://fempcentral.com/workshops/registration.ws. For more information, please contact Susan Courtney at susan@cemamerica.com or 703-250-2862.

Get Recognized—Nominate Projects for Energy Management Awards

The Federal Energy Management Program has released 2008 Criteria and Guidelines for its three awards programs:

- **Presidential Awards for Leadership in Federal Energy Management**
  Established in 2001 in response to Executive Order 13123, *Greening the Government Through Efficient Energy Management,* to honor agency teams that exemplify Federal leadership in energy management and have excelled in the use of the energy efficiency and management tools specified in the Order. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,* continues this prestigious award program.
- **Federal Energy and Water Management Awards**
  Founded in 1981 by the Department of Energy and the Federal Interagency Energy Policy Committee to recognize Federal organizations, teams, and individuals for outstanding efforts to conserve energy and water resources, use renewable technologies, and reduce the environmental impact of energy use.
- **DOE Energy Management Awards** *(for DOE facilities only)*
  First established in 1979 by the Department of Energy's In-House Energy Management Program, this program is now reinstated to recognize exemplary DOE programs, facilities, and individuals who promote the goals of the Secretary of Energy's TEAM Initiative and show superior leadership in effective, efficient energy management.

Presentation of Colors at the 2007 Presidential Awards for Leadership in Federal Energy Management

These programs reward efforts across the Federal government to save energy, reduce energy costs in federal facilities, promote a cleaner environment, accelerate technology transfer, strengthen our national security, and create a stronger economy.

Please note the following changes to the 2008 award programs from prior years:

Some 2008 Federal Energy and Water Management Award categories have changed. The "Energy Efficient Mobility" and "Energy Security and Reliability" categories were eliminated. Two new categories, "Sustainable Design/High Performance Buildings" and "Vehicle Fleet Management," are now added to align with the goals of Executive Order 13423. Additionally, to preclude redundancy with the Sustainable Design category, FEMP is no longer accepting nominations for Federal Energy Saver Showcase designations. FEMP strongly encourages agencies to select their own exemplary facilities to recognize internally as showcases, as well as submit nominations for these facilities for awards under this new Sustainable Design category or other appropriate existing award categories.

For Department of Energy facilities, unlike previous years where DOE Awards were chosen from Federal Energy and Water Management Award nominations, the DOE Energy Management Awards now have their own set of criteria and guidelines focused on DOE's TEAM Initiative. Therefore, if a DOE program plans to submit a project for a Federal Energy and Water Management Award, **a separate nomination** addressing the goals of the TEAM Initiative is now required. For more information about the TEAM Initiative, please visit www2.eere.energy.gov/TEAM.

All award nominations are due to the Federal Energy Management Program office by May 23, 2008. The combined 2008 criteria and guidelines and coversheet for the Presidential and Federal Energy Awards and separate guidelines and coversheet for the DOE Awards may be downloaded from the FEMP Web site. Please visit www.eere.energy.gov/femp/services/awards.html.

For more information about the Presidential Awards, please contact Annie Haskins of FEMP at annie.haskins@ee.doe.gov or 202-586-4536. For information about the Federal Awards, please contact Amanda Sahl at amanda.sahl@ee.doe.gov or 202-586-1662. For information about the DOE Energy Management Awards, please contact Jennifer McCain at jennifer.mccain@ee.doe.gov or 202-586-1573.

RENEWABLE ENERGY GUIDANCE RELEASED
(continued from page 3)

generated on-site, a Federal agency may claim two kWhs. To claim this bonus, agencies must retain RECs for the electricity generated on-site.

For example, assume an energy manager developed an opportunity to host a project that produces 1 million kWh of renewable energy a year on the agency's land, and the agency is able to use the electricity at its facility. The energy manager and his agency can claim 2 million kWh of renewable energy use toward their renewable energy goal because of the bonus, as long as they do not sell or trade the RECs from the project.

But what if RECs from the project were worth 2 cents/kWh and the agency needed help in financing the project? In that case the energy manager could work with the project developer to sell those RECs and reduce the cost of the project by $20,000 per year. However, unless the agency replaces those RECs, it cannot count either the 1 million kWh of generation or the 1 million kWh bonus towards its renewable energy goal.

Every energy manager wants his agency to meet the renewable energy goal, so let us assume he found another source of RECs that only cost 1 cent per kWh, the RECs come from facilities placed in service after January 1, 1999, and the agency bought 1 million of them per year. Although this REC purchase would cost $10,000 per year, the agency would still net $10,000 per year ahead from the cost reduction from the sale of RECs from its on-site project.

In this scenario, the agency could also claim both the generation from the project and the bonus, restoring the 2 million kWh it can claim toward meeting its renewable energy goal. This may sound complicated and work intensive for the energy manager, but in practice the swap of one REC for another does not have to be formally documented. As long as the agency reports having enough RECs from qualified new renewable energy sources to cover the output from on-site projects or projects on Indian land, it will automatically be given credit for any generation that qualifies for the bonus when it prepares its annual energy report to FEMP. More details on REC retention requirements and trading options can be found in sections 3.2.1 and 3.2.2. More details on bonuses for qualifying renewable energy can be found in section 3.4.

What is the difference between EPACT 2005 and EO 13423?

EPACT 2005 and Executive Order 13423 have the same total minimum renewable energy requirements; however, EO 13423 also has a minimum requirement for new (placed into service after January 1, 1999) renewable energy sources and allows new non-electrical (thermal) energy sources to be used to meet these minimum requirements for new sources (see table below for details).

Now let us consider the case of another agency that happens to have a lot of electricity from qualified renewable energy, but all of it is from projects placed in service before January 1, 1999. The agency only needs 1 million kWh to meet the renewable energy goal under EPACT 2005. However, because all this renewable energy comes from "old" sources the agency can only count it towards half (500,000 kWh) of the EO 13423 renewable energy requirements; the other half of the required renewable energy must come from new sources. Until the agency satisfies the EO 13423 requirement that half of their goal must come from sources placed in service after January 1, 1999, they cannot get credit for their total renewable electricity use.

Luckily the renewable energy generators happen to produce a large amount of waste heat that the agency can use if it upgrades them to combined heat and power (CHP). The CHP upgrade happens to be cost-effective, and it produces 1.706 billion Btu of thermal renewable energy per year, which is equivalent to half the agency's goal, 500,000 kWh (3412 Btu/kWh). Because the heat recovery system for the renewable energy generators was placed in service after January 1, 1999 it qualifies as a source of new renewable energy and satisfies the EO 13423 requirement. Now the agency can report that it has met the new requirement, report all of the renewable energy use from its older renewable electricity generators, and easily meet both EPACT 2005 and EO 13423's goals.

The guidance deals with many other thorny questions. Section 3.4.4 provides important information on when refurbished facilities can qualify for the bonus. Section 3.4.5 is important for biomass projects because it allows agencies to qualify for the bonus as long as the generating equipment is located on Federal or Indian land, even if the biomass fuel is imported from off site. You can find this information and more details and nuanced definitions of the terms relevant to EPACT 2005 and EO 13423's renewable energy sections in the guidance, which can be found online at: www.eere.energy.gov/femp/renewable_energy/renewable_fedrequire.html.

Comparison of EO 13423 and EPACT 2005 Renewable Energy Goals

	2007-2009	2009-2013	2013 onward	Can include new non-electrical?	New or old source?
EO 13423 new renewable energy sources minimum requirements	1.5%	2.5%	3.75%	Yes	No, exclusively new
EPACT 2005 total minimum renewable energy requirements	3%	5%	7.5%	No	Yes

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For information on topics not listed here, call the FEMP Help Desk at 1-877-337-3463

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Call for Papers

FEMP invites you to submit articles for a Summer Special Issue on **Energy Efficiency** by April 18, 2008.

Articles should be of interest to the Federal energy management community. Case studies, best practices, technology, and relevant studies are welcome. Articles should be 500-1500 words.

Final publishing decisions will be made by FEMP staff. Submitters will be notified of FEMP's decision of reject or preliminary accept by May 7, 2008. The Summer Special Issue will be published prior to and available at GovEnergy 2008.

To submit an article, please e-mail your submission to Amanda Sahl at amanda.sahl@ee.doe.gov.

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