

# FOCUS

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

Special Issue 2006

## Agencies Respond to President's Memorandum to Conserve Energy

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As mandated in President Bush's September 26, 2005 memorandum to the heads of executive departments and agencies (see page 3), federal agencies reported through the Secretary of Energy on their actions to conserve energy. Their reports show a tremendous response to this call through the immediate implementation of a wide variety of energy-saving measures, from increasing awareness programs, optimizing heating, cooling, and air conditioning systems, to facilitating telecommuting. Highlights of the many actions taken by agencies follow.

### Awareness Activities

Many agencies reported increasing awareness activities to spread the word about conserving energy. In the Department of Defense (DOD), energy conservation memoranda reinforcing the President's message were sent out by the Deputy Secretary of Defense and senior officials in each of the DOD components. In the Department of Homeland Security (DHS), an article on the directive was included in the publication *DHS Today*. The Department of Health and Human Services published a "Special Energy Conservation Edition" of the *HHS Energy News*.

The General Services Administration (GSA) initiated several customer outreach measures, identifying specific actions that all GSA customers can take to reduce energy usage. GSA Federal Supply Service, which provides 200,000 vehicles to customer agencies, distributed a letter with helpful fuel conservation advice to customers. GSA's Public Buildings Service has also distributed information to its customers with suggested actions for decreasing plug loads.

### Facility Energy Reductions

Agencies took varied measures, both large and small, to curtail energy use in facilities. Several agencies reported consolidating or shutting down facilities. GSA eliminated 24/7 operations at three sites. The Department of the Interior plans to consolidate 24-hour operations at U.S. Geological Survey facilities where possible, and is considering shutting down unused nonessential facilities in the Bureau of Land Management.

Agencies are achieving greater energy efficiency through more efficient operations and maintenance. In the Department of the Treasury, the Bureau of Engraving and Printing is saving natural gas by shutting down the thermal oxidizer

*continued on page 3*



## Letter from FEMP's Program Manager: Creating an Open Forum and Gaining Momentum

Dear Colleagues,

I am pleased to introduce myself as the new Program Manager of the Federal Energy Management Program. Since my first day at FEMP, a number of major challenges have arisen for federal energy managers, including the more stringent requirements of the new Energy Policy Act of 2005 and the Presidential directive issued to federal agencies to conserve natural gas, electricity, gasoline, and diesel fuel after hurricanes Katrina and Rita threatened our natural gas and fuel supplies.

I am extremely pleased by the tremendous agency response to the Presidential memorandum on energy and fuel conservation. Agencies were charged with reviewing existing conservation programs, identifying and implementing additional ways to reduce overall fuel use, and reporting back on actions taken by their agencies within 30 days of the memorandum. The long list and wide variety of actions reported by federal agencies, which you can read about in this special issue of *FEMP Focus*, show that the federal government is taking a strong lead in this initiative.

As part of this effort, I enthusiastically encourage open communication to share our best practices and increase partnerships, not only with our private sector partners, but also with other agencies. We are all equal partners and leaders in the eyes of FEMP—not just the largest agency customers or biggest energy users. Every agency has much to contribute to this effort. I ask every individual in the federal government to capitalize on this momentum we have created in response to the Presidential memorandum. We must continue to apply these practices on a permanent basis to help us meet our new energy management goals and challenges.

For example, in this issue you will read about Energy Saving Expert Teams (ESET), which were quickly dispatched to provide energy assessments and audit services to federal sites directly affected by the hurricanes, as well as sites with high potential for natural gas savings. This has proven to be an extremely successful service for agencies, offered by FEMP when we are facing potential energy shortages and price spikes. I am currently working to find a way to overcome funding barriers in order to make the ESET a permanent service we can offer every year.

My vision is that through its results-oriented coordination across agencies and need-specific offers of specialized services and tools, FEMP leads the federal government to a level where each federal agency is a leader in its own right through creative and efficient management of its energy and resource consumption.

I am excited to learn of other new ideas and suggestions from agencies on ways we can improve FEMP's services as well as our communication with one another. I encourage agencies to contact me directly to discuss these issues. I look forward to the new partnerships we will create in the coming months and achieving our new goals, working together to lead by example.

Lastly, *Energy 2006* will be held August 6-9, 2006 in Chicago. I invite you to visit our web site at [http://www.eere.energy.gov/femp/energy\\_expo/2006/](http://www.eere.energy.gov/femp/energy_expo/2006/) to learn more about what this ninth annual premier workshop will feature to assist you with meeting the needs of your programs and enhancing your professional growth.

Rick Khan  
 FEMP Program Manager

Secretary of Energy  
 Samuel W. Bodman

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 Office of Energy Efficiency  
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 Program Manager  
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Leading by example, saving energy and  
 taxpayer dollars in federal facilities

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# Memorandum for the Heads of Executive Departments and Agencies

## **SUBJECT: Energy and Fuel Conservation by Federal Agencies**

Residents of the Gulf Coast States affected by Hurricanes Katrina and Rita have lost loved ones, lost homes, and been displaced from their communities. The Federal Government will continue to assist victims of the hurricanes. Our priority is first to save, sustain, and protect lives and then to restore important infrastructure needed for recovery.

A key component of this Administration's hurricane response plan is to ensure that sufficient supplies of natural gas, gasoline, and diesel fuel are available throughout the country, including in those areas hardest hit by the hurricane, as well as in those areas served by refineries and pipelines originating in the affected areas. Already we have made available oil from the Strategic Petroleum Reserve (SPR) to refineries that are short on supplies of crude oil, and we will continue to monitor this situation and the use of the SPR. The Department of Energy has deployed personnel and is working with local power companies, local authorities, and State authorities to help get electricity functioning and to ensure the repair and continuity of oil and gas pipelines that may have been affected by power outages. In addition, the Environmental Protection Agency has issued temporary fuel waivers under the Clean Air Act, and the Department of Transportation has suspended "hours of service" rules for fuel tanker trucks to make additional supplies of gasoline and diesel fuel available in those areas of the country affected by the hurricane. However, it is important that the Federal Government lead by example and further contribute to the relief effort by reducing its own fuel use during this difficult time.

Therefore, I hereby direct the heads of executive departments and agencies (agencies) to take appropriate actions to conserve natural gas, electricity, gasoline, and diesel fuel to the maximum extent consistent with the effective discharge of public responsibilities. All agencies should conserve fuel so we can reduce overall demand and allow extra supplies to be directed towards the hurricane relief effort. In particular, agencies should temporarily curtail non-essential travel and other activities that use gasoline or diesel fuel, and encourage employees to carpool, telecommute, and use public transportation to reduce fuel use. Federal agencies should also take action to conserve natural gas and electricity during periods of peak consumption by shifting energy-intensive activities to non-peak periods wherever possible and by procuring and using efficient Energy STAR-rated energy intensive appliances and products.

In addition, agencies should review their existing operating and administrative processes and conservation programs and identify and implement ways to reduce overall fuel use. Agencies should report to me, through the Secretary of Energy, within 30 days from the date of this memorandum on the fuel conservation actions taken. Agencies shall take these and other appropriate energy and fuel conservation actions using existing budget authority.

GEORGE W. BUSH

## **AGENCIES RESPOND TO PRESIDENT'S MEMORANDUM TO CONSERVE ENERGY** (continued from page 1)

process during non-production periods. To conserve diesel fuel, NASA has reduced test running of its generators by 50 percent. NASA has also reduced its on-site power generation requirement for distant spacecraft communication operations. The Environmental Protection Agency reported that laboratories have been able to conserve more energy by improving management of fume hood operations by laboratory personnel.

Agencies implemented a number of steps to optimize HVAC systems. The National Archives and Records Administration began turning off selected air handlers at night in office spaces. The Department of Commerce also increased by an additional

hour the length of time that office HVAC units are cycled off at night and on weekends. HHS began turning off the HVAC on weekends, reducing HVAC to 12 hours per day during the week and shutting down non-essential space heating and cooling one hour before the normal close of each workday where possible.

Savings were also achieved through optimizing energy management control systems and metering energy use. In DHS, the Federal Law Enforcement Training Center installed and upgraded direct digital controls in several existing buildings. DOD incorporated occupancy controllers in dorms and barracks to decrease heating oil consumption. At EPA, meters were installed to track overall campus energy consumption and identify usage patterns. Sub-meters were also installed to track

*continued on page 5*

# FEMP Deploys Teams in Response to Natural Gas Concerns

Demand for natural gas in the United States has risen steadily over the past decade, fueled in part by increased consumption of natural gas for electricity generation. At the same time, domestic production has declined since its peak in the mid-1970s, and recent efforts to encourage drilling activity have had limited results. Hurricanes Katrina and Rita led to natural gas being “shut in,” which has contributed to dramatic price increases. Monthly average spot prices for natural gas supplies this coming winter are currently fluctuating around \$12 to \$13 per million Btu—about twice last year’s average.

Developing significant new supplies of natural gas will take time but, in the short term, reducing demand through energy conservation, efficiency, load management, and fuel switching can help hold down the price of natural gas. Actions taken now to improve efficiency and minimize consumption and dependence on natural gas will also be critical in buffering agency budgets from price volatility.

## Energy Savings Expert Teams (ESET) Response

The Federal Energy Management Program continues to lead in promoting the efficient use of energy resources through targeted energy conservation, efficiency, and load management at federal facilities. FEMP is offering energy savings expert teams (ESET) assessments (formerly called ALERT [Assessment of Load and Energy Reduction Techniques]) for federal facilities as part of a broad strategy to reduce natural gas consumption at these facilities. An increase of \$1 per million Btu in natural gas prices increases energy costs to the government by \$130 million. Containment of energy costs continues to be a high priority as agency budgets reflect the impact of international and homeland security efforts. ESET assessments will provide opportunities for federal facilities to significantly reduce energy use and to cut energy costs.

## Criteria for Site Selection

In FY 2006 FEMP has assessed 28 new sites thus far. (See page 22 for a listing of the completed sites.) The cost to FEMP per site assessment is expected to range between \$15,000 and \$35,000. Working with agency personnel and the Department of Energy Regional Offices, the following criteria were used to identify ESET candidates:

- Active project champion and management support
- Resources to participate in the assessment and implement the recommendations
- Significant natural gas consumption at the site
- Significant potential savings (i.e., preference for large facilities and older systems)
- Utility bills paid by agency



*FEMP representative performs an on-site inspection at the Solar Energy Research Facility*

- Ability to share costs. Cost-sharing contribution by the agency may be in the form of in-kind services, funding for a support contractor to participate in the ESET assessment, or support for FEMP ESET replication efforts by organizing and funding an agency ESET workshop to learn the techniques.

## ESET Assessment Procedure

- Agencies submit request to DOE
- Sites are selected based on ESET screening criteria
- Two interviews before the site visit by ESET team: Initial interview and completion of an in-depth questionnaire on site buildings, equipment, and energy use
- Site visit includes kick-off meeting, brief site/facility tour and measure targeting, investigation of targeted measures and possible implementation of select opportunities, follow-up discussion, and consensus on action items
- Draft report issued for rapid site review and written feedback
- Issuance of final report incorporating site feedback
- Site implements remaining recommendations
- Follow-up by DOE Regional Office to gather information on implementation status for FEMP’s report.

## Getting Help

For more information on ESET assessments, contact Ab Ream, FEMP, 202-586-7230 or [ab.ream@ee.doe.gov](mailto:ab.ream@ee.doe.gov) or visit [http://www.eere.energy.gov/femp/services/assessments\\_alert.cfm](http://www.eere.energy.gov/femp/services/assessments_alert.cfm)

## AGENCIES RESPOND TO PRESIDENT'S MEMORANDUM TO CONSERVE ENERGY

*(continued from page 3)*

energy use within specific buildings. DOD performed night surveys to minimize off-hour electricity consumption.

Federal agencies have increased procurement of energy efficient products. To facilitate the purchasing of energy efficient products, EPA's Region 4 Office worked with the Georgia Energy Facility Authority on a tax-free weekend for the purchase of Energy Star-labeled products throughout the state from October 6-9, 2005.

Several agencies conserved more energy by limiting the operating hours for elevators and escalators. The Federal Trade Commission has turned off one elevator at each end of its Headquarters building and one elevator in their annex.

Agencies also took steps to decrease the drain on energy by plug loads. The Department of State is moving forward on a program to provide guidance to employees on what appliances should not be in workspaces. DOE unplugged the compressors on 84 water fountains. The Smithsonian reported that it has shut down selected decorative fountains.

Agencies implemented measures to conserve the energy used for lighting. Commerce reduced lighting levels in common areas such as building corridors, and installed occupancy sensors for lighting in public corridors, restrooms, and conference rooms. DOD turned off decorative lighting in all Defense commissaries.

Several agencies reported building envelope improvements. Commerce installed automatic closers on loading dock roll-up doors to minimize energy loss. The Department of Labor has installed new permanent weather stripping, caulking, and insulation in its owned buildings. DOE reported improving insulation on building roofs.

Agencies have taken measures to maximize boiler efficiency. In the Department of Transportation, boilers are being shut down one hour early every day at the Federal Aviation Administration's Mike Monroney Center. Low-fire operation on boilers has also been extended. NASA decommissioned central boiler plants and replaced them with high efficiency local boilers. DHS is increasing the operating efficiencies of its boiler plants. At the DHS Federal Law Enforcement Training Center Charleston campus, increasing boiler operating pressures have decreased burner cycling. Also, boiler combustion chamber and heat transfer surface cleanings were increased and a boiler with a gas analyzing monitoring system was installed.

### Gasoline and Diesel Fuel Savings

Agencies implemented a wide variety of measures to curtail vehicle and equipment fuel. Several agencies reported replacing eight-cylinder vehicles with more fuel-efficient six-cylinder vehicles. EPA Headquarters acquired a hydrogen fuel cell vehicle. HHS will expand the use of electric carts on large campuses and

reduce truck use. Commerce has converted three-quarter-ton vehicles to more fuel-efficient utility carts. At the Social Security Administration's headquarters, a fuel tank was retrofitted so that alternative fuel vehicles can easily obtain and use E-85 fuel. Within DHS, the Plum Island Animal Disease Center adjusted its ferry schedule and limited runs to only those required for mission accomplishment to conserve diesel fuel.

Many agencies reported encouraging employees to use the smallest and most fuel efficient vehicle possible to perform their mission. Agencies are also facilitating increased employee use of carpools, mass transit, telecommuting, and compressed work schedules.

## Web Resources for Reducing Natural Gas

Information gathering is often the first step for facility managers in finding solutions to the problem of how to reduce natural gas use and produce energy cost savings. FEMP has a large inventory of useful and valuable information on energy-efficient technologies and processes available, and some of the most helpful Web links for immediately responding to the President's Directive are provided below:

### Operations and Maintenance

[http://www.eere.energy.gov/femp/utility/om\\_resources.cfm](http://www.eere.energy.gov/femp/utility/om_resources.cfm)

O&M is one of the most cost-effective areas to make quick improvements in energy efficiency that will immediately begin to reduce natural gas use.

### Reducing Natural Gas and Electricity

[http://www.eere.energy.gov/femp/utility/gaselec\\_resources.cfm](http://www.eere.energy.gov/femp/utility/gaselec_resources.cfm)

In the world of energy efficiency, facility managers now, more than ever, need guidance and information specifically directed at how to save natural gas and electricity.

### How Federal Employees Can Help

[http://www.eere.energy.gov/femp/utility/fedemp\\_resources.cfm](http://www.eere.energy.gov/femp/utility/fedemp_resources.cfm)

Facility employees can take some easy, but valuable steps to help meet the need to conserve natural gas and petroleum by taking some simple actions, from carpooling to buying energy-efficient light bulbs, and much more.

### State and Local Resources

[http://www.eere.energy.gov/femp/utility/state\\_resources.cfm](http://www.eere.energy.gov/femp/utility/state_resources.cfm)

States and local agencies can provide regional assistance, with particular emphasis on local tax and initiative programs.



# 3 MILLION FEDERAL EMPLOYEES WORKING TOGETHER

## CAN MAKE A WORLD OF DIFFERENCE

### NOT IN USE? TURN OFF THE JUICE!



Switch off unnecessary lights



Shut off or unplug electrical "drains"



Use energy efficient products with the Energy Star® Label



Walk, bike, or take public transport to work

This year's hurricane season has caused devastation and severe hardship in many areas of the country. The resulting impact on America's energy infrastructure has been unprecedented.

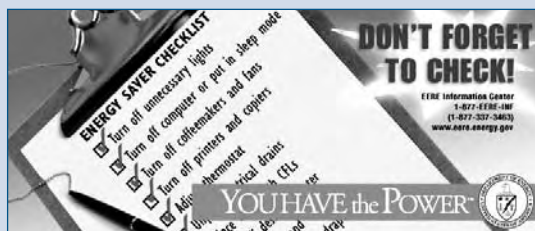
But we can turn a problem into an opportunity to rebuild. Now is the time for all Federal workers to act together. If we work together to use energy wisely and efficiently, we can make an important difference in dealing with the aftermath, regardless of where we live or work.

The Federal government is committed to ensuring a secure, reliable, and affordable supply of energy. All government employees and their families can help by using available supplies of energy wisely.

**ACT NOW TO SAVE.**

### Now Available on the Web

FEMP has designed and produced a number of Animated Energy Awareness Messages that promote employee energy awareness all year round. These messages can be



sent out as a mass mailing of e-mail messages or attached to e-mail messages as a simple, cost-free way for agencies to spread the word about energy efficiency. The animated gif files and low resolution graphics are available to download from the FEMP Web site at:

[http://www.eere.energy.gov/femp/services/yhttp/campaign\\_materials.cfm](http://www.eere.energy.gov/femp/services/yhttp/campaign_materials.cfm)

# DO YOUR PART

## DRIVEN TO SAVE



Plan trips carefully. Combine multiple trips and avoid stop-and-go driving

Avoid rush hour driving

Maintain your car. A car that is not tuned up and has under-inflated tires can lose up to one mile per gallon

Drive efficiently. Unnecessary speed ups and slowdowns can hurt fuel economy

Slow down. The faster you drive, the more fuel you use

Carpool, bike, or use mass transit when commuting to work

## WORKING TO CONSERVE



Always use Compact Fluorescent Lights (CFLs) in desk lamps as opposed to incandescent lights

Switch off all unnecessary lights

Use natural lighting when possible

When working late, use task lighting to directly illuminate work areas

Unplug equipment that drains energy even when not in use (i.e., cell phone chargers, fans, coffeemakers, desktop printers, radios, etc.)

If possible, turn off your office equipment and/or computer monitors at the end of the work day

Use efficient ENERGY STAR® products

Close or tilt window blinds to block direct sunlight to reduce cooling needs during warm months

Photocopy only what you need

Always use the second side of paper, either by printing on both sides or using the blank side as scrap paper

Use durable coffee mugs instead of disposable cups



# NATURAL GAS TIPS FOR FACILITY MANAGERS

## BUILDINGS

1. Optimize combustion efficiency
2. Lower thermostat settings (relax dress code to allow for warmer clothing)
3. Lower setback temperatures
4. Optimize morning warm-up and night setback controls
5. Minimize reheat
6. Minimize outside air use for ventilation consistent with code requirements
7. Replace or clean filters
8. Clean heating and cooling coils
9. Shut off non-essential equipment and spaces
10. Insulate and caulk
11. Inspect and adjust/repair/replace dampers
12. Retro-commission
13. Accelerate replacement of inefficient equipment

## CENTRAL HEATING PLANTS

1. Optimize combustion efficiency
2. Minimize boiler blowdown
3. Optimize boiler loading
4. Clean combustion chamber and heat transfer surfaces
5. Switch to non-petroleum based fuels

## DOMESTIC HOT WATER

1. Lower water temperatures consistent with hygiene requirements
2. Install low flow faucets
3. Install water heater jackets/insulate tanks and piping
4. Turn off circulating systems on nights and weekends

## THERMAL DISTRIBUTION SYSTEMS

1. Inspect and repair/replace steam traps
2. Inspect and repair condensate return equipment
3. Locate and repair steam leaks
4. Repair insulation
5. Isolate non-essential distribution piping

# The Energy Policy Act of 2005 and Federal Facilities

## Energy Efficiency

A significant portion of the new Energy Policy Act addresses activities to increase National energy supply, and energy technology research and development. There are, however, significant energy efficiency improvement requirements for Federal facilities to lead by example.

The first section in the new Act, Section 101 “Energy and Water Savings Measures in Congressional Buildings”, directs the Architect of the Capitol to develop and implement a plan to identify and apply life-cycle cost-effective energy and water conservation measures in all Congressional buildings. The plan must be submitted to Congress within 180 days of passage of the Act and include a schedule of continuing surveys of all buildings every five years to assure that changes in technology and costs are considered in developing cost effective projects. The requirements also include a study of the costs and benefits of the installation of sub-metering of the buildings, and the development of “how to” guides for Members and employees of Congress that identify simple methods to save energy and cost in the workplace.

Section 102 “Energy Management Requirements” establishes new energy efficiency goals for all Federal agencies. The new energy goals are an annual two percent reduction in energy use per gross square foot of buildings, starting in 2006, culminating in a twenty percent reduction in fiscal year 2015 – from a new baseline of 2003. The new requirement includes industrial and laboratory buildings in the goal. In an indication that the Congress recognizes the need for continuing emphasis of increased energy efficiency as technology and costs change as well as the difficulty of the requirement, the Secretary of Energy is charged with reviewing the results of the Acts implementation and submitting recommendations for additional energy performance requirements for fiscal years 2016 through 2025.

Section 102 also updates criteria for exclusion of buildings from the energy efficiency goals based on findings by the head of the agency relating to the implementation of all practicable, life-cycle cost-effective projects, energy intensiveness, or national security. As with many other sections of the Act, the Secretary of Energy is required to provide guidance to the agencies on the application for exclusion.

As an incentive, Section 102 includes authority for Federal agencies to retain any funds appropriated to that agency for energy, water, or wastewater treatment expenditures that are not made because of savings through actions taken to comply with the Act. Unless other laws override, the funds can only be used

for energy efficiency, water conservation, or unconventional and renewable energy resources projects.

Section 103 “Energy Use Measurement and Accountability” directs that all Federal buildings be metered “...for the purposes of efficient energy use and reduction in the cost of electricity used in such buildings...” by October 1, 2012. The mandate is specific to the measurement of electricity in that advanced meters or metering devices that provide data at least daily and measure the consumption of electricity at least hourly will be used to the maximum extent practicable. Congress recognized the fact that simply metering the buildings is not sufficient to accomplish the energy and cost reduction objectives and required that the data from the meters be incorporated into existing energy tracking systems and made available to the Federal facility managers.

Also recognizing the complexity and potential cost issue, Congress directed that the Secretary of Energy—in consultation with the Department of Defense, the General Services Administration, and all private sector utilities, metering stakeholders, as well as national laboratories and universities—develop guidelines for implementation within 180 days of the Acts signing. The Congressional mandate includes specific issues to be considered in developing the guidelines, including: the relative costs and benefits of the proposed metering, the amount of funds and personnel resources necessary to implement the mandate, protocol to prioritize metering applications, and guidelines for excluding individual buildings. Within six months of receipt of the guidance, agencies will submit to DOE an implementation plan identifying personnel responsible for achieving the requirements, and any determination by the agency that advanced meters or metering systems are not practicable in their specific situation.

Section 104 “Procurement of Energy Efficient Products” is a requirement that each agency “...incorporate into the specifications for **all** (emphasis added) procurements involving energy consuming products and systems, including guides specifications, project specifications, and construction, renovation, and services contracts that include provision of energy consuming products and systems, and into the factors for the evaluation of offers received for the procurement, criteria for energy efficiency that are consistent with...Energy Star products and for rating FEMP designated products.” This legislative requirement will assure that all Federal contracts that include energy consuming products meet the Energy Star and FEMP standards.

*continued on page 22*



## ENERGY POLICY ACT OF 2005 FEDERAL ENERGY PROVISIONS AT A GLANCE

Section	Provisions
102. Energy management goals	<ul style="list-style-type: none"> <li>• Annual energy reduction goal of 2% from FY 2006 - FY 2015</li> <li>• Reporting baseline changed from 1985 to 2003</li> <li>• In 180 days, DOE issues guidelines (See <a href="http://www.eere.energy.gov/femp/about/legislation_epact_05.cfm">http://www.eere.energy.gov/femp/about/legislation_epact_05.cfm</a>)</li> <li>• Retention of energy and water savings by agencies</li> <li>• DOE reports annually on progress to the President and Congress</li> <li>• DOE recommends new requirements for FY 2016 – FY 2025 by 2014</li> </ul>
103. Energy use measurement and accounting	<ul style="list-style-type: none"> <li>• Electric metering required in federal buildings by 2012</li> <li>• In 180 days, DOE consults and issues guidelines (See <a href="http://www.eere.energy.gov/femp/about/legislation_epact_05.cfm">http://www.eere.energy.gov/femp/about/legislation_epact_05.cfm</a>)</li> <li>• Agencies report to DOE 6 months after guidelines issued</li> </ul>
104. Procurement of Energy Efficient Products	<ul style="list-style-type: none"> <li>• Federal agencies must purchase only Energy Star qualified or FEMP-designated products for product categories covered by Energy Star or FEMP designation.</li> <li>• Exception when not cost-effective for intended use or does not meet agency functional requirements</li> <li>• Energy efficient specifications required in procurement bids and evaluations</li> <li>• Requires premium efficient products: electric motors, air conditioning, and refrigeration equipment procurements</li> <li>• In 180 days, DOE issues regulations</li> </ul>
104 (c) Energy efficient products in Federal catalogs	<ul style="list-style-type: none"> <li>• Requires federal supply agencies—General Services Administration (GSA) and the Defense Logistics Agency (DLA)—to give priority listing to Energy Star qualified and FEMP-designated products.</li> <li>• GSA and DLA must supply only complying products unless the purchasing agency specifies in writing why an exception is needed.</li> </ul>
105. ESPCs	<ul style="list-style-type: none"> <li>• Reauthorizes ESPCs through September 30, 2016</li> </ul>
109. Federal Building Performance Standards	<ul style="list-style-type: none"> <li>• Buildings to be designed to 30% below ASHRAE standard or International Energy Conservation Code unless proven to be not life-cycle cost-effective</li> <li>• Application of sustainable design principles</li> <li>• Agencies must identify new buildings in their budget request and identify those that meet or exceed the standard</li> <li>• DOE must include the agency budget information above in the annual report</li> <li>• DOE must determine cost-effectiveness of subsequent standard revisions within one year</li> </ul>
111. Enhancing efficiency in management of Federal lands	<ul style="list-style-type: none"> <li>• Energy efficiency technologies in public and administrative buildings to the extent practical</li> </ul>
203. Federal purchase requirement (renewables)	<ul style="list-style-type: none"> <li>• Renewable electricity consumption by the Federal government can not be less than: 3 percent in FY 2007-FY 2009 5 percent in FY 2010-FY 2012 7.5 percent in 2013 and thereafter</li> <li>• Defines several types of renewables</li> <li>• Double credit for renewables (1) produced on the site or on Federal lands and used at a Federal facility or (2) produced on Native American lands</li> <li>• Biannual DOE progress reporting beginning no later than April 15, 2007</li> </ul>
204. Use of photovoltaic energy in public buildings	<ul style="list-style-type: none"> <li>• Establishes a photovoltaic energy commercialization program in Federal buildings</li> <li>• Issue rules, develop strategies and reports annually to Congress</li> <li>• Install 20,000 solar energy systems in Federal buildings by 2010</li> <li>• Requires an evaluation 60-days after passage</li> <li>• Authorizes funds for the program</li> </ul>
207. Installation of a photoelectric system	<ul style="list-style-type: none"> <li>• Authorized funds for a solar wall at DOE's Forrestal Building</li> </ul>
1331. Energy Efficient Commercial Buildings Deduction	<ul style="list-style-type: none"> <li>• Tax deduction of \$1.80 per square foot on new construction after Dec. 31, 2005 if annual energy and power costs of interior lighting systems, heating, cooling, ventilation, and hot water systems are 50% or more below ASRAE Standard 90.1-2001</li> </ul>

## NECPA PART 3—FEDERAL ENERGY MANAGEMENT AMENDMENTS

Sections 101 through 104 of the Energy Policy Act of 2005 (P.L. 109-58) amend Part 3 of Title V of the National Energy Conservation Policy Act (NECPA) (42 U.S.C. 8251-8261). NECPA had also been amended in previous years by the Federal Energy Management Improvement Act of 1988 (P.L. 100-615), the Energy Policy Act of 1992 (P.L. 102-486). Printed below are the pertinent sections of NECPA as amended by EPACT 2005 Sections 101 through 104.

### PART 3—FEDERAL ENERGY MANAGEMENT

#### SEC. 541. FINDINGS.

The Congress finds that—

(1) the Federal Government is the largest single energy consumer in the Nation;

(2) the cost of meeting the Federal Government’s energy requirement is substantial;

(3) there are significant opportunities in the Federal Government to conserve and make more efficient use of energy through improved operations and maintenance, the use of new energy efficient technologies, and the application and achievement of energy efficient design and construction;

(4) Federal energy conservation measures can be financed at little or no cost to the Federal Government by using private investment capital made available through contracts authorized by title VIII of this Act; and

(5) an increase in energy efficiency by the Federal Government would benefit the Nation by reducing the cost of government, reducing national dependence on foreign energy resources, and demonstrating the benefits of greater energy efficiency to the Nation.

#### SEC. 542. PURPOSE.

It is the purpose of this part to promote the conservation and the efficient use of energy and water, and the use of renewable energy sources, by the Federal Government.

#### 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 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.....	6
2009.....	8
2010.....	10
2011.....	12
2012.....	14
2013.....	16
2014.....	18
2015.....	20

(2) Reporting baseline.—The energy reduction goals and baseline established in paragraph (1) of section 543(a) of the National Energy Conservation Policy Act (42 U.S.C. 8253(a)(1)), as amended by this subsection, supersede all previous goals and baselines under such paragraph, and related reporting requirements.

(3) Not later than December 31, 2014, the Secretary shall review the results of the implementation of the energy performance requirement established under paragraph (1) and submit to Congress recommendations concerning energy performance requirements for fiscal years 2016 through 2025.

(b) ENERGY MANAGEMENT REQUIREMENT FOR FEDERAL AGENCIES.—(1) Not later than January 1, 2005, each agency shall, to the maximum extent practicable, install in Federal buildings owned by the United States all energy and water conservation measures with payback periods of less than 10 years, as determined by using the methods and procedures developed pursuant to section 544.

(2) The Secretary may waive the requirements of this subsection for any agency for such periods as the Secretary may determine if the Secretary finds that the agency is taking all practicable steps to meet the requirements and that the requirements of this subsection will pose an unacceptable burden upon the agency. If the Secretary waives the requirements of this subsection, the Secretary shall notify the Congress promptly in writing with an explanation and a justification of the reasons for such waiver.

(3) This subsection shall not apply to an agency’s facilities that generate or transmit electric energy or to the uranium enrichment facilities operated by the Department of Energy.

(4) An agency may participate in the Environmental Protection Agency's 'Green Lights' program for purposes of receiving technical assistance in complying with the requirements of this section.

(c) EXCLUSIONS.—(1) (A) An agency may exclude, from the energy performance requirement for a fiscal year established under subsection (a) and the energy management requirement established under subsection (b), any Federal building or collection of Federal buildings, if the head of the agency finds that—

(i) compliance with those requirements would be impracticable;

(ii) the agency has completed and submitted all federally required energy management reports;

(iii) the agency has achieved compliance with the energy efficiency requirements of this Act, the Energy Policy Act of 1992, Executive orders, and other Federal law; and

(iv) the agency has implemented all practicable, life cycle cost-effective projects with respect to the Federal building or collection of Federal buildings to be excluded.

(B) A finding of impracticability under subparagraph (A)(i) shall be based on—

(i) the energy intensiveness of activities carried out in the Federal building or collection of Federal buildings; or

(ii) the fact that the Federal building or collection of Federal buildings is used in the performance of a national security function.

(2) Each agency shall identify and list, in each report made under section 548(a), the Federal buildings designated by it for such exclusion. The Secretary shall review such findings for consistency with the standards for exclusion set forth in paragraph (1), and may within 90 days after receipt of the findings, reverse the exclusion. In the case of any such reversal, the agency shall comply with the requirements of subsections (a) and (b)(1) for the building concerned.

(3) Not later than 180 days after the date of enactment of this paragraph, the Secretary shall issue guidelines that establish criteria for exclusions under paragraph (1).

(d) IMPLEMENTATION STEPS.—The Secretary shall consult with the Secretary of Defense and the Administrator of General Services in developing guidelines for the implementation of this part. To meet the requirements of this section, each agency shall—

(1) prepare and submit to the Secretary, not later than December 31, 1993, a plan describing how the agency intends

to meet such requirements, including how it will—

(A) designate personnel primarily responsible for achieving such requirements;

(B) identify high priority projects through calculation of payback periods;

(C) take maximum advantage of contracts authorized under Title VIII of this Act, of financial incentives and other services provided by utilities for efficiency investment, and of other forms of financing to reduce the direct costs to the Government; and

(D) otherwise implement this part.

(2) perform energy surveys of its Federal buildings to the extent necessary and update such surveys as needed, incorporating any relevant information obtained from the survey conducted pursuant to Section 550;

(3) using such surveys, determine the cost and payback period of energy and water conservation measures likely to achieve the requirements of this section;

(4) install energy and water conservation measures that will achieve the requirements of this section through the methods and procedures established pursuant to Section 544; and

(5) ensure that the operation and maintenance procedures applied under this section are continued.

(e) METERING OF ENERGY USE.—

(1) DEADLINE.—By October 1, 2012, in accordance with guidelines established by the Secretary under paragraph (2), all Federal buildings shall, for the purposes of efficient use of energy and reduction in the cost of electricity used in such buildings, be metered. Each agency shall use, to the maximum extent practicable, advanced meters or advanced metering devices that provide data at least daily and that measure at least hourly consumption of electricity in the Federal buildings of the agency. Such data shall be incorporated into existing Federal energy tracking systems and made available to Federal facility managers.

(2) GUIDELINES.—

(A) IN GENERAL.—Not later than 180 days after the date of enactment of this subsection, the Secretary, in consultation with the Department of Defense, the General Services Administration, representatives from the metering industry, utility industry, energy services industry, energy efficiency industry, energy efficiency advocacy organizations, national laboratories, universities, and Federal facility managers, shall establish guidelines for agencies to carry out paragraph (1).

(B) REQUIREMENTS FOR GUIDELINES.—

The guidelines shall—

(i) take into consideration—

(I) the cost of metering and the reduced cost of operation and maintenance expected to result from metering;

(II) the extent to which metering is expected to result in increased potential for energy management, increased potential for energy savings and energy efficiency improvement, and cost and energy savings due to utility contract aggregation; and

(III) the measurement and verification protocols of the Department of Energy;

(ii) include recommendations concerning the amount of funds and the number of trained personnel necessary to gather and use the metering information to track and reduce energy use;

(iii) establish priorities for types and locations of buildings to be metered based on cost-effectiveness and a schedule of one or more dates, not later than 1 year after the date of issuance of the guidelines, on which the requirements specified in paragraph (1) shall take effect; and

(iv) establish exclusions from the requirements specified in paragraph (1) based on the de minimis quantity of energy use of a Federal building, industrial process, or structure.

(3) PLAN.—Not later than 6 months after the date guidelines are established under paragraph (2), in a report submitted by the agency under section 548(a), each agency shall submit to the Secretary a plan describing how the agency will implement the requirements of paragraph (1), including (A) how the agency will designate personnel primarily responsible for achieving the requirements and (B) demonstration by the agency, complete with documentation, of any finding that advanced meters or advanced metering devices, as defined in paragraph (1), are not practicable.

**SEC. 544. ESTABLISHMENT AND USE OF LIFE CYCLE COST METHODS AND PROCEDURES.**

(No change.)

**SEC. 545. BUDGET TREATMENT FOR ENERGY CONSERVATION MEASURES.**

(No change.)

**SEC. 546. INCENTIVES FOR AGENCIES.**

(No change to subsection (a) through subsection (d).)

(e) RETENTION OF ENERGY AND WATER SAVINGS.—An agency may retain any funds appropriated to that agency for energy expenditures, water expenditures, or wastewater treatment expenditures, at buildings subject to the requirements of section 543(a) and (b), that are not made because of energy savings or water savings. Except as otherwise provided by law, such funds may be used only for energy efficiency, water conservation, or unconventional and renewable energy resources projects. Such projects shall be subject to the requirements of section 3307 of title 40, United States Code.

**SEC. 547. INTERAGENCY ENERGY MANAGEMENT TASK FORCE.**

(No change.)

**SEC. 548. REPORTS.**

(a) REPORTS TO THE SECRETARY.—Each agency shall transmit a report to the Secretary, at times specified by the Secretary but at least annually, with complete information on its activities under this part, including information on—

(1) the agency's progress in achieving the goals established by Section 543; and

(2) the procedures being used by the agency pursuant to Section 546(a)(2), the number of contracts entered into by such agency under Title VIII of this act, the energy and cost savings that have resulted from such contracts, the use of such cost savings under Section 546(c), and any problem encountered in entering into such contracts and otherwise implementing Section 546.

(b) REPORTS TO THE PRESIDENT AND CONGRESS.—The Secretary shall report not later than April 2 of each year, with respect to each fiscal year beginning after the date of the enactment of this subsection, to the President and Congress—

(1) on all activities carried out under this part and on the progress made toward achievement of the objectives of this part, including—

(A) a copy of the list of the exclusions made under Sections 543(a)(2) and 543(c)(3); and

(B) a statement detailing the amount of funds awarded to each agency under Section 546(b), the energy and water conservation measures installed with such funds, the projected energy and water savings to be realized from installed measures, and, for each installed measure for which the projected energy and water savings reported in the previous year were not realized, the percentage of such projected savings that was not realized, the reasons such savings were not realized, and proposals for, and projected costs of, achieving such projected savings in the future.

(2) the number of contracts entered into by all agencies under Title VIII of this Act, the difficulties (if any) encountered in attempting to enter into such contracts, and the proposed solutions to those difficulties; and

(3) the extent and nature of interagency exchange of information concerning the conservation and efficient utilization of energy.

(c) OTHER REPORT.—The Secretary, in consultation with the Administrator of General Services, shall—

(1) conduct a study and evaluate legal, institutional, and other constraints to connecting buildings owned or leased by the Federal Government to district heating and district cooling systems; and

(2) not later than 18 months after the date of the enactment of this subsection, transmit to the Congress a report containing the findings and conclusions of such study, including recommendations for the development of streamlined processes for the consideration of connecting buildings owned or leased by the Federal Government to district heating and cooling systems.

#### SEC. 549. DEMONSTRATION OF NEW TECHNOLOGY.

(No change.)

#### SEC. 550. SURVEY OF ENERGY SAVING POTENTIAL.

(a) IN GENERAL.—The Secretary shall, in consultation with the Interagency Energy Management Task Force established under Section 547, carry out an energy survey for the purposes of—

(1) determining the maximum potential cost effective energy savings that may be achieved in a representative sample of buildings owned or leased by the Federal Government in different areas of the country;

(2) making recommendations for cost effective energy efficiency and renewable energy improvements in those buildings and in other similar Federal buildings; and

(3) identifying barriers which may prevent an agency's ability to comply with Section 543 and other energy management goals.

(b) IMPLEMENTATION.—(1) The Secretary shall transmit to the Committee on Energy and Natural Resources and the Committee on Governmental Affairs of the Senate and the Committee on Energy and Commerce, the Committee on Government Operations, and the Committee on Public Works and Transportation of the House of Representatives, within 180 days after the date of the enactment of the Energy Policy Act of 1992, a plan for implementing this section.

(2) The Secretary shall designate buildings to be surveyed in the project so as to obtain a sample of the buildings of the types and in the climates that is representative of buildings owned or leased by Federal agencies in the United States that consume the major portion of the energy consumed in Federal buildings. Such sample shall include, where appropriate, the following types of Federal facility space:

- (A) Housing.
- (B) Storage.
- (C) Office.
- (D) Services.
- (E) Schools.
- (F) Research and Development.
- (G) Industrial.
- (H) Prisons.
- (I) Hospitals.

(3) For purposes of this section, an improvement shall be considered cost effective if the cost of the energy saved or displaced by the improvement exceeds the cost of the improvement over the remaining life of a Federal building or the remaining term of a lease of a building leased by the Federal Government as determined by the life cycle costing methodology developed under Section 544.

(c) PERSONNEL.—(1) In carrying out this section, the Secretary shall utilize personnel who are—

(A) employees of the Department of Energy; or

(B) selected by the agencies utilizing the buildings which are being surveyed under this section.

(2) Such personnel shall be detailed for the purpose of carrying out this section without any reduction of salary or benefits.

(d) REPORT.—As soon as practicable after the completion of the project carried out under this section, the Secretary shall transmit a report of the findings and conclusions of the project to the Committee on Energy and Natural Resources and the Committee on Governmental Affairs of the Senate, the Committee on Energy and Commerce, the Committee on Government Operations, and the Committee on Public Works and Transportation of the House of Representatives, and the agencies who own the buildings involved in such project. Such report shall include an analysis of the probability of each agency achieving each of the energy reduction goals established under section 543(a).

#### SEC. 551. DEFINITIONS.

For the purposes of this part—

(1) the term 'agency' has the meaning given it in section 551(1) of title 5, United States Code;

(2) the term 'construction' means new construction or substantial rehabilitation of existing structures;

(3) the term 'cogeneration facilities' has the same meaning given such term in section 3(18)(A) of the Federal Power Act (16 U.S.C. 796(18)(A));

(4) the term 'energy conservation measures' means measures that are applied to a Federal building that improve energy efficiency and are life cycle cost effective and that involve energy conservation, cogeneration facilities, renewable energy sources, improvements in operations and maintenance efficiencies, or retrofit activities;

(5) the term 'energy survey' means a procedure used to determine energy and cost savings likely to result from the use of appropriate energy related maintenance and operating procedures and modifications, including the purchase and installation of particular energy-related equipment and the use of renewable energy sources;

(6) the term 'Federal building' means any building, structure, or facility, or part thereof, including the associated energy consuming support systems, which is constructed, renovated, leased, or purchased in whole or in part for use by the Federal Government and which consumes energy; such term also means a collection of such buildings, structures, or facilities and the energy consuming support systems for such collection;

(7) the term 'life cycle cost' means the total costs of owning, operating, and maintaining a building over its useful life (including such costs as fuel, energy, labor, and replacement components) determined on the basis of a systematic evaluation and comparison of alternative building systems, except that in the case of leased buildings, the life cycle costs shall be calculated over the effective remaining term of the lease;

(8) the term 'renewable energy sources' includes, but is not limited to, sources such as agriculture and urban waste, geothermal energy, solar energy, and wind energy; and

(9) the term 'Secretary' means the Secretary of Energy.

#### **SEC. 552. ENERGY AND WATER SAVINGS MEASURES IN CONGRESSIONAL BUILDINGS.**

(a) IN GENERAL.—The Architect of the Capitol—

(1) shall develop, update, and implement a cost-effective energy conservation and management plan (referred to in this section as the 'plan') for all facilities administered by Congress referred to in this section as 'congressional buildings' to meet the energy performance requirements for Federal buildings established under section 543(a)(1); and

(2) shall submit the plan to Congress, not later than 180

days after the date of enactment of this section.

(b) PLAN REQUIREMENTS.—The plan shall include—

(1) a description of the life cycle cost analysis used to determine the cost-effectiveness of proposed energy efficiency projects;

(2) a schedule of energy surveys to ensure complete surveys of all congressional buildings every 5 years to determine the cost and payback period of energy and water conservation measures;

(3) a strategy for installation of life cycle cost-effective energy and water conservation measures;

(4) the results of a study of the costs and benefits of installation of submetering in congressional buildings; and

(5) information packages and 'how-to' guides for each Member and employing authority of Congress that detail simple, cost-effective methods to save energy and taxpayer dollars in the workplace.

(c) ANNUAL REPORT.—The Architect of the Capitol shall submit to Congress annually a report on congressional energy management and conservation programs required under this section that describes in detail—

(1) energy expenditures and savings estimates for each facility;

(2) energy management and conservation projects; and

(3) future priorities to ensure compliance with this section.

#### **SEC. 553. FEDERAL PROCUREMENT OF ENERGY EFFICIENT PRODUCTS.**

(a) DEFINITIONS.—In this section:

(1) Agency.—The term 'agency' has the meaning given that term in section 7902(a) of title 5, United States Code.

(2) Energy star product.—The term 'Energy Star product' means a product that is rated for energy efficiency under an Energy Star program.

(3) Energy star program.—The term 'Energy Star program' means the program established by section 324A of the Energy Policy and Conservation Act.

(4) FEMP designated product.—The term 'FEMP designated product' means a product that is designated under the Federal Energy Management Program of the Department of Energy as being among the highest 25 percent of equivalent products for energy efficiency.

(5) Product.—The term ‘product’ does not include any energy consuming product or system designed or procured for combat or combat-related missions.

(b) PROCUREMENT OF ENERGY EFFICIENT PRODUCTS.—

(1) Requirement.—To meet the requirements of an agency for an energy consuming product, the head of the agency shall, except as provided in paragraph (2), procure

(A) an Energy Star product; or

(B) a FEMP designated product.

(2) Exceptions.—The head of an agency is not required to procure an Energy Star product or FEMP designated product under paragraph (1) if the head of the agency finds in writing that—

(A) an Energy Star product or FEMP designated product is not cost-effective over the life of the product taking energy cost savings into account; or

(B) no Energy Star product or FEMP designated product is reasonably available that meets the functional requirements of the agency.

(3) Procurement planning.—The head of an agency shall incorporate into the specifications for all procurements involving energy consuming products and systems, including guide specifications, project specifications, and construction, renovation, and services contracts that include provision of energy consuming products and systems, and into the factors for the evaluation of offers received for the procurement, criteria for energy efficiency that are consistent with the criteria used for rating Energy Star products and for rating FEMP designated products.

(c) LISTING OF ENERGY EFFICIENT PRODUCTS IN FEDERAL CATALOGS.—Energy Star products and FEMP designated products shall be clearly identified and prominently displayed in any inventory or listing of products by the General Services Administration or the Defense Logistics Agency. The General Services Administration or the Defense Logistics Agency shall supply only Energy Star products or FEMP designated products for all product categories covered by the Energy Star program or the Federal Energy Management Program, except in cases where the agency ordering a product specifies in writing that no Energy Star product or FEMP designated product is available to meet the buyer’s functional requirements,

or that no Energy Star product or FEMP designated product is cost-effective for the intended application over the life of the product, taking energy cost savings into account.

(d) SPECIFIC PRODUCTS.— (1) In the case of electric motors of 1 to 500 horsepower, agencies shall select only premium efficient motors that meet a standard designated by the Secretary. The Secretary shall designate such a standard not later than 120 days after the date of the enactment of this section, after considering the recommendations of associated electric motor manufacturers and energy efficiency groups.

(2) All Federal agencies are encouraged to take actions to maximize the efficiency of air conditioning and refrigeration equipment, including appropriate cleaning and maintenance, including the use of any system treatment or additive that will reduce the electricity consumed by air conditioning and refrigeration equipment. Any such treatment or additive must be—

(A) determined by the Secretary to be effective in increasing the efficiency of air conditioning and refrigeration equipment without having an adverse impact on air conditioning performance (including cooling capacity) or equipment useful life;

(B) determined by the Administrator of the Environmental Protection Agency to be environmentally safe; and

(C) shown to increase seasonal energy efficiency ratio (SEER) or energy efficiency ratio (EER) when tested by the National Institute of Standards and Technology according to Department of Energy test procedures without causing any adverse impact on the system, system components, the refrigerant or lubricant, or other materials in the system. Results of testing described in subparagraph (C) shall be published in the Federal Register for public review and comment. For purposes of this section, a hardware device or primary refrigerant shall not be considered an additive.

(e) REGULATIONS.—Not later than 180 days after the date of the enactment of this section, the Secretary shall issue guidelines to carry out this section.

## ENERGY SAVINGS PERFORMANCE CONTRACTS AUTHORITY

*Section 105 of the Energy Policy Act of 2005 (P.L. 109-58) amends Title VIII of the National Energy Conservation Policy Act (NECPA) (42 U.S.C. 8287) pertaining to energy savings performance contracts. The amendment changes section 801(c) to read as follows: (c) SUNSET AND REPORTING REQUIREMENTS.—(1) The authority to enter into new contracts under this section shall cease to be effective October 1, 2016.*

*Section 105 of EPACT 2005 is printed below:*

### **SEC. 105. ENERGY SAVINGS PERFORMANCE CONTRACTS.**

(a) EXTENSION.—Section 801(c) of the National Energy Conservation Policy Act (42 U.S.C. 8287(c)) is amended by striking “2006” and inserting “2016”.

(b) EXTENSION OF AUTHORITY.—Any energy savings performance contract entered into under section 801 of the National Energy Conservation Policy Act (42 U.S.C. 8287) after October 1, 2003, and before the date of enactment of this Act, shall be considered to have been entered into under that section.

## FEDERAL BUILDING PERFORMANCE STANDARDS AMENDMENTS

*Section 109 of the Energy Policy Act of 2005 (P.L. 109-58) amends Section 305(a) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)), Federal Building Energy Efficiency Standards. Printed below are the pertinent sections of the Energy Conservation and Production Act as amended by EPACT 2005 Section 109.*

### **SEC. 305. FEDERAL BUILDING ENERGY EFFICIENCY STANDARDS.**

(a) IN GENERAL

(1) Not later than 2 years after October 24, 1992, the Secretary, after consulting with appropriate Federal agencies, CABO, ASHRAE, the National Association of Home Builders, the Illuminating Engineering Society, the American Institute of Architects, the National Conference of the States on Building Codes and Standards, and other appropriate persons, shall establish, by rule, Federal building energy standards that require in new Federal buildings those energy efficiency measures that are technologically feasible and economically justified. Such standards shall become effective no later than 1 year after such rule is issued.

(2) The standards established under paragraph (1) shall—

(A) contain energy saving and renewable energy specifications that meet or exceed the energy saving and renewable energy specifications of the 2004 International Energy Conservation Code (in the case of residential buildings) or ASHRAE Standard 90.1-2004 (in the case of commercial buildings);

(B) to the extent practicable, use the same format as the appropriate voluntary building energy code; and

(C) consider, in consultation with the Environmental Protection Agency and other Federal agencies, and where appropriate contain, measures with regard to radon and other indoor air pollutants.

(3)(A) Not later than 1 year after the date of enactment of this paragraph, the Secretary shall establish, by rule, revised

Federal building energy efficiency performance standards that require that—

(i) if life-cycle cost-effective for new Federal buildings—

(I) the buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the version of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, that is in effect as of the date of enactment of this paragraph; and

(II) sustainable design principles are applied to the siting, design, and construction of all new and replacement buildings; and

(ii) if water is used to achieve energy efficiency, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective.

(iii) Not later than 1 year after the date of approval of each subsequent revision of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, the Secretary shall determine, based on the cost-effectiveness of the requirements under the amendment, whether the revised standards established under this paragraph should be updated to reflect the amendment.

(iv) In the budget request of the Federal agency for each fiscal year and each report submitted by the



Federal agency under section 548(a) of the National Energy Conservation Policy Act (42 U.S.C. 8258(a)), the head of each Federal agency shall include—

(v) a list of all new Federal buildings owned, operated, or controlled by the Federal agency; and

(vi) a statement specifying whether the Federal buildings meet or exceed the revised standards established under this paragraph.

(b) OMITTED

(c) PERIODIC REVIEW

The Secretary shall periodically, but not less than once every 5 years, review the Federal building energy standards established under this section and shall, if significant energy savings would result, upgrade such standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.

(d) INTERIM STANDARDS

Interim energy performance standards for new Federal buildings issued by the Secretary under this subchapter as it existed before October 24, 1992, shall remain in effect until the standards established under subsection (a) of this section become effective.

## ENERGY EFFICIENCY ON FEDERAL LANDS

*Section 111 of the Energy Policy Act of 2005 (P.L. 109-58) is printed below.*

### SEC. 111. ENHANCING ENERGY EFFICIENCY IN MANAGEMENT OF FEDERAL LANDS.

(a) SENSE OF THE CONGRESS.—It is the sense of the Congress that Federal agencies should enhance the use of energy efficient technologies in the management of natural resources.

(b) ENERGY EFFICIENT BUILDINGS.—To the extent practicable, the Secretary of the Interior, the Secretary of Commerce, and the Secretary of Agriculture shall seek to incorporate energy efficient technologies in public and administrative buildings associated with

## RENEWABLE ENERGY PURCHASE REQUIREMENT

*Section 203 of the Energy Policy Act of 2005 (P.L. 109-58) is printed below.*

### SEC. 203. FEDERAL PURCHASE REQUIREMENT.

(a) REQUIREMENT.—The President, acting through the Secretary, shall seek to ensure that, to the extent economically feasible and technically practicable, of the total amount of electric energy the Federal Government consumes during any fiscal year, the following amounts shall be renewable energy:

(1) Not less than 3 percent in fiscal years 2007 through 2009.

(2) Not less than 5 percent in fiscal years 2010 through 2012.

(3) Not less than 7.5 percent in fiscal year 2013 and each fiscal year thereafter.

(b) DEFINITIONS.—In this section:

(1) BIOMASS.—The term “biomass” means any lignin waste material that is segregated from other waste materials and is determined to be nonhazardous by the Administrator of the Environmental Protection Agency and any solid, nonhazard-

ous, cellulosic material that is derived from—

(A) any of the following forest-related resources: mill residues, precommercial thinnings, slash, and brush, or nonmerchantable material;

(B) solid wood waste materials, including waste pallets, crates, dunnage, manufacturing and construction wood wastes (other than pressure-treated, chemically-treated, or painted wood wastes), and landscape or right-of-way tree trimmings, but not including municipal solid waste (garbage), gas derived from the biodegradation of solid waste, or paper that is commonly recycled;

(C) agriculture wastes, including orchard tree crops, vineyard, grain, legumes, sugar, and other crop by-products or residues, and livestock waste nutrients; or

(D) a plant that is grown exclusively as a fuel for the production of electricity.

(2) RENEWABLE ENERGY.—The term “renewable energy” means electric energy generated from solar, wind, biomass,

landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, municipal solid waste, or new hydroelectric generation capacity achieved from increased efficiency or additions of new capacity at an existing hydroelectric project.

(C) CALCULATION.—For purposes of determining compliance with the requirement of this section, the amount of renewable energy shall be doubled if—

(1) the renewable energy is produced and used on-site at a Federal facility;

(2) the renewable energy is produced on Federal lands and used at a Federal facility; or

(3) the renewable energy is produced on Indian land as defined in title XXVI of the Energy Policy Act of 1992 (25 U.S.C. 3501 et seq.) and used at a Federal facility.

(d) REPORT.—Not later than April 15, 2007, and every 2 years thereafter, the Secretary shall provide a report to Congress on the progress of the Federal Government in meeting the goals established by this section.

## PHOTOVOLTAIC ENERGY IN PUBLIC BUILDINGS

*Section 204 of the Energy Policy Act of 2005 (P.L. 109-58) amends subchapter VI of chapter 31 of title 40, United States Code, by adding section 3177. Section 204 also includes a conforming amendment to the National Energy Conservation Policy Act that adds the new section as Section 570 of NECPA. The new section is printed below.*

### §3177. USE OF PHOTOVOLTAIC ENERGY IN PUBLIC BUILDINGS.

#### (a) PHOTOVOLTAIC ENERGY COMMERCIALIZATION PROGRAM

(1) IN GENERAL.—The Administrator of General Services may establish a photovoltaic energy commercialization program for the procurement and installation of photovoltaic solar electric systems for electric production in new and existing public buildings.

(2) PURPOSES.—The purposes of the program shall be to accomplish the following:

(A) To accelerate the growth of a commercially viable photovoltaic industry to make this energy system available to the general public as an option which can reduce the national consumption of fossil fuel.

(B) To reduce the fossil fuel consumption and costs of the Federal Government.

(C) To attain the goal of installing solar energy systems in 20,000 Federal buildings by 2010, as contained in the Federal Government's Million Solar Roof Initiative of 1997.

(D) To stimulate the general use within the Federal Government of life-cycle costing and innovative procurement methods.

(E) To develop program performance data to support policy decisions on future incentive programs with respect to energy.

#### (3) ACQUISITION OF PHOTOVOLTAIC SOLAR ELECTRIC SYSTEMS.—

(A) IN GENERAL.—The program shall provide for the acquisition of photovoltaic solar electric systems and associated storage capability for use in public buildings.

(B) ACQUISITION LEVELS.—The acquisition of photovoltaic electric systems shall be at a level substantial enough to allow use of low-cost production techniques with at least 150 megawatts (peak) cumulative acquired during the 5 years of the program.

(4) ADMINISTRATION.—The Administrator shall administer the program and shall—

(A) issue such rules and regulations as may be appropriate to monitor and assess the performance and operation of photovoltaic solar electric systems installed pursuant to this subsection;

(B) develop innovative procurement strategies for the acquisition of such systems; and

(C) transmit to Congress an annual report on the results of the program.

#### (b) PHOTOVOLTAIC SYSTEMS EVALUATION PROGRAM.—

(1) IN GENERAL.—Not later than 60 days after the date of enactment of this section, the Administrator shall establish a photovoltaic solar energy systems evaluation program to evaluate such photovoltaic solar energy systems as are required in public buildings.

(2) PROGRAM REQUIREMENT.—In evaluating photovoltaic solar energy systems under the program, the Administrator shall ensure that such systems reflect the most advanced technology.

## (c) AUTHORIZATION OF APPROPRIATIONS.—

(1) PHOTOVOLTAIC ENERGY COMMERCIALIZATION PROGRAM.—There are authorized to be appropriated to carry out subsection (a) \$50,000,000 for each of fiscal years 2006 through 2010. Such sums shall remain available until expended.

(2) PHOTOVOLTAIC SYSTEMS EVALUATION PROGRAM.—There are authorized to be appropriated to carry out subsection (b) \$10,000,000 for each of fiscal years 2006 through 2010. Such sums shall remain available until expended.

## PV INSTALLATION AT DOE HEADQUARTERS

*Section 207 of the Energy Policy Act of 2005 (P.L. 109-58) is printed below.*

### SEC. 207. INSTALLATION OF PHOTOVOLTAIC SYSTEM.

There is authorized to be appropriated to the General Services Administration to install a photovoltaic system, as set forth in the Sun Wall Design Project, for the headquarters building of the

Department of Energy located at 1000 Independence Avenue Southwest in the District of Columbia, commonly known as the Forrestal Building, \$20,000,000 for fiscal year 2006. Such sums shall remain available until expended.

## ENERGY EFFICIENT COMMERCIAL BUILDINGS DEDUCTION

*Section 1331 of the Energy Policy Act of 2005 (P.L. 109-58) amends part VI (Itemized Deductions for Individuals and Corporations) of subchapter B of chapter 1, subtitle A of title 26 United States Code, by adding a new section 179D. Conforming amendments to other parts of the tax code are also included in Section 1331. The new section is printed below.*

### SEC. 179D. ENERGY EFFICIENT COMMERCIAL BUILDINGS DEDUCTION.

(a) IN GENERAL.—There shall be allowed as a deduction an amount equal to the cost of energy efficient commercial building property placed in service during the taxable year.

(b) MAXIMUM AMOUNT OF DEDUCTION.—The deduction under subsection (a) with respect to any building for any taxable year shall not exceed the excess (if any) of—

(1) the product of—

(A) \$1.80, and

(B) the square footage of the building, over

(2) the aggregate amount of the deductions under subsection (a) with respect to the building for all prior taxable years.

(c) DEFINITIONS.—For purposes of this section—

(1) ENERGY EFFICIENT COMMERCIAL BUILDING PROPERTY.—The term ‘energy efficient commercial building property’ means property—

(A) with respect to which depreciation (or amortization in lieu of depreciation) is allowable,

(B) which is installed on or in any building which is—

(i) located in the United States, and

(ii) within the scope of Standard 90.1-2001,

(C) which is installed as part of—

(i) the interior lighting systems,

(ii) the heating, cooling, ventilation, and hot water systems, or

(iii) the building envelope, and

(D) which is certified in accordance with subsection (d)(6) as being installed as part of a plan designed to reduce the total annual energy and power costs with respect to the interior lighting systems, heating, cooling, ventilation, and hot water systems of the building by 50 percent or more in comparison to a reference building which meets the minimum requirements of Standard 90.1-2001 using methods of calculation under subsection (d)(2).

(2) STANDARD 90.1-2001.—The term ‘Standard 90.1-2001’ means Standard 90.1-2001 of the American Society of Heating, Refrigerating, and Air Conditioning Engineers and the Illuminating Engineering Society of North America (as in effect on April 2, 2003).

(d) SPECIAL RULES.—

(1) PARTIAL ALLOWANCE.—

(A) IN GENERAL.—Except as provided in subsection (f), if—

(i) the requirement of subsection (c)(1)(D) is not met, but

(ii) there is a certification in accordance with paragraph (6) that any system referred to in subsection (c)(1)(C) satisfies the energy-savings targets established by the Secretary under subparagraph (B) with respect to such system, then the requirement of subsection (c)(1)(D) shall be treated as met with respect to such system, and the deduction under subsection (a) shall be allowed with respect to energy efficient commercial building property installed as part of such system and as part of a plan to meet such targets, except that subsection (b) shall be applied to such property by substituting ‘\$.60’ for ‘\$1.80’.

(B) REGULATIONS.—The Secretary, after consultation with the Secretary of Energy, shall establish a target for each system described in subsection (c)(1)(C) which, if such targets were met for all such systems, the building would meet the requirements of subsection (c)(1)(D).

(2) METHODS OF CALCULATION.—The Secretary, after consultation with the Secretary of Energy, shall promulgate regulations which describe in detail methods for calculating and verifying energy and power consumption and cost, based on the provisions of the 2005 California Nonresidential Alternative Calculation Method Approval Manual.

(3) COMPUTER SOFTWARE.—

(A) IN GENERAL.—Any calculation under paragraph (2) shall be prepared by qualified computer software.

(B) QUALIFIED COMPUTER SOFTWARE.—For purposes of this paragraph, the term ‘qualified computer software’ means software—

(i) for which the software designer has certified that the software meets all procedures and detailed methods for calculating energy and power consumption and costs as required by the Secretary,

(ii) which provides such forms as required to be filed by the Secretary in connection with energy efficiency of property and the deduction allowed under this section, and

(iii) which provides a notice form which documents the energy efficiency features of the building and its projected annual energy costs.

(4) ALLOCATION OF DEDUCTION FOR PUBLIC PROPERTY.—In the case of energy efficient commercial building property installed on or in property owned by a Federal, State, or local government or a political subdivision thereof, the Secretary shall promulgate a regulation to allow the allocation of the deduction to the person primarily responsible for designing the property in lieu of the owner of such property. Such person shall be treated as the taxpayer for purposes of this section.

(5) NOTICE TO OWNER.—Each certification required under this section shall include an explanation to the building owner regarding the energy efficiency features of the building and its projected annual energy costs as provided in the notice under paragraph (3)(B)(iii).

(6) CERTIFICATION.—

(A) IN GENERAL.—The Secretary shall prescribe the manner and method for the making of certifications under this section.

(B) PROCEDURES.—The Secretary shall include as part of the certification process procedures for inspection and testing by qualified individuals described in subparagraph (C) to ensure compliance of buildings with energy-savings plans and targets. Such procedures shall be comparable, given the difference between commercial and residential buildings, to the requirements in the Mortgage Industry National Accreditation Procedures for Home Energy Rating Systems.

(C) QUALIFIED INDIVIDUALS.—Individuals qualified to determine compliance shall be only those individuals who are recognized by an organization certified by the Secretary for such purposes.

(e) BASIS REDUCTION.—For purposes of this subtitle, if a deduction is allowed under this section with respect to any energy efficient commercial building property, the basis of such property shall be reduced by the amount of the deduction so allowed.

(f) INTERIM RULES FOR LIGHTING SYSTEMS.—Until such time as the Secretary issues final regulations under subsection (d)(1)(B) with respect to property which is part of a lighting system—

(1) IN GENERAL.—The lighting system target under subsection (d)(1)(A)(ii) shall be a reduction in lighting power density of 25 percent (50 percent in the case of a warehouse) of the minimum requirements in Table 9.3.1.1 or Table 9.3.1.2 (not including additional interior lighting power allowances) of Standard 90.1-2001.

(2) REDUCTION IN DEDUCTION IF REDUCTION LESS THAN 40 PERCENT.—

(A) IN GENERAL.—If, with respect to the lighting system of any building other than a warehouse, the reduction in lighting power density of the lighting system is not at least 40 percent, only the applicable percentage of the

amount of deduction otherwise allowable under this section with respect to such property shall be allowed.

(B) **APPLICABLE PERCENTAGE.**—For purposes of subparagraph (A), the applicable percentage is the number of percentage points (not greater than 100) equal to the sum of—

(i) 50, and

(ii) the amount which bears the same ratio to 50 as the excess of the reduction of lighting power density of the lighting system over 25 percentage points bears to 15.

(C) **EXCEPTIONS.**—This subsection shall not apply to any system—

(i) the controls and circuiting of which do not comply fully with the mandatory and prescriptive requirements of Standard 90.1-2001 and which do not include provision for bilevel switching in all oc-

cupancies except hotel and motel guest rooms, store rooms, restrooms, and public lobbies, or

(ii) which does not meet the minimum requirements for calculated lighting levels as set forth in the Illuminating Engineering Society of North America Lighting Handbook, Performance and Application, Ninth Edition, 2000.

(g) **REGULATIONS.**—The Secretary shall promulgate such regulations as necessary—

(1) to take into account new technologies regarding energy efficiency and renewable energy for purposes of determining energy efficiency and savings under this section, and

(2) to provide for a recapture of the deduction allowed under this section if the plan described in subsection (c)(1)(D) or (d)(1)(A) is not fully implemented.

(h) **TERMINATION.**—This section shall not apply with respect to property placed in service after December 31, 2007.

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## NAS STUDY OF ENERGY EFFICIENCY STANDARDS

*Section 1802 of the Energy Policy Act of 2005 (P.L. 109-58) is printed below.*

### **SEC. 1802. STUDY OF ENERGY EFFICIENCY STANDARDS.**

The Secretary shall contract with the National Academy of Sciences for a study, to be completed within 1 year after the date of enactment of this Act, to examine whether the goals of energy efficiency standards are best served by measurement of energy

consumed, and efficiency improvements, at the actual site of energy consumption, or through the full fuel cycle, beginning at the source of energy production. The Secretary shall submit the report to Congress.

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## NAS STUDY OF RE POTENTIAL ON FEDERAL LAND

*Section 1833 of the Energy Policy Act of 2005 (P.L. 109-58) is printed below.*

### **SEC. 1833. RENEWABLE ENERGY ON FEDERAL LAND.**

(a) **National Academy of Sciences Study.**—Not later than 90 days after the date of enactment of this Act, the Secretary of the Interior shall enter into a contract with the National Academy of Sciences under which the National Academy of Sciences shall—

(1) study the potential of developing wind, solar, and ocean energy resources (including tidal, wave, and thermal energy) on Federal land available for those uses under current law and

the outer Continental Shelf;

(2) assess any Federal law (including regulations) relating to the development of those resources that is in existence on the date of enactment of this Act; and

(3) recommend statutory and regulatory mechanisms for developing those resources.

(b) **Submission to Congress.**—Not later than 2 years after the date of enactment of this Act, the Secretary of the Interior shall submit to Congress the results of the study under subsection (a).

**THE ENERGY POLICY ACT OF 2005 AND FEDERAL FACILITIES ENERGY EFFICIENCY**  
(continued from page 8)

Section 105 “Energy Savings Performance Contracts” extends the authority of the National Energy Conservation Policy Act for Federal agencies to energy into the performance contracts for energy and water conservation to 2016.

To assure that all new Federal buildings incorporate the best energy efficiency techniques available, Section 109 “Federal Building Performance Standards” directs the Secretary of Energy, within one year, to issue a rule that establishes Federal building energy efficiency performance standards. The standards will require that, if life-cycle cost-effective, all new Federal buildings

will be designed to achieve energy consumption levels thirty percent below those of the current version of the applicable ASHRAE standard or the International Energy Conservation Code. The requirement further states that sustainable design principles will be applied to the siting, design, and construction of all new and replacement buildings. The section also requires DOE to perform a review within one year of any change to the ASHRAE standard or IECC to see if the Federal guidance should be updated. As an oversight provision, the section also directs each agency to include in its annual budget request and report under the National Energy Policy Act identification of all new buildings and whether they meet or exceed the developed standards.

## FY 2006 ESET Assessment Sites Completed

Agency	Facility	City, State
DHS	Coast Guard Training Center Cape May	Cape May, NJ
DOD-Army	Fort Bragg	Fort Bragg, NC
DOD-Army	Fort Gordon	Fort Gordon, GA
DOD-Army	Fort Sill	Fort Sill, OK
DOD-Army	Redstone Arsenal	Redstone Arsenal, AL
DOD-Navy	Crane Naval Surface Warfare Center	Crane, IN
DOD-Navy	Naval Submarine Base New London	Groton, CT
DOD-Navy	Naval Submarine Base, Bangor	Silverdale, WA
DOD-Navy	Naval Undersea Warfare Center (NUWC), Keyport	Keyport, WA
DOD-Navy	Patuxent River Naval Air Warfare Center	Patuxent River, MD
DOD-Navy	Puget Sound Naval Shipyard Bremerton	Bremerton, WA
DOD-USAF	Eglin Air Force Base	Eglin AFB, FL
DOD-USAF	Hill Air Force Base	Hill AFB, UT
DOD-USAF	Robins Air Force Base	Robins AFB, GA
DOD-USAF	Wright-Patterson Air Force Base	Dayton, OH
DOE	Pacific Northwest National Laboratory	Richland, WA
DOI NPS	Statue of Liberty National Monument	New York, NY
DOJ-BOP	Allenwood Federal Correctional Complex	Allenwood, PA
GSA	Alfonse D'Amato U.S. Courthouse	Central Islip, NY
GSA	Daniel P. Moynihan U.S. Courthouse	New York, NY
GSA	Denver Federal Center	Denver, CO
GSA	Food and Drug Administration, 158 Liberty Avenue	Jamaica NY
GSA	Frank M. Johnson, Jr. Federal Building and U.S. Courthouse	Montgomery, AL
GSA	Ron Mazzoli Federal Building	Louisville, Kentucky
HHS	Parklawn Building	Rockville, MD
NASA	NASA Glenn Research Center	Cleveland, OH
VA	John D. Dingell Medical Center	Detroit, MI
VA	Ralph H. Johnson Medical Center	Charleston, SC

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