




Energy Policy Act of 2005 & Presidential Memorandum “Energy and Fuel Conservation by Federal Agencies


Presentation to EFCOG Environmental Subgroup 4/26/2006






Sandia is a multi program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under contract DE-AC04-94AL85000.






Energy Policy Act of 2005


- Signed into law on August 8, 2005
- First major energy legislation passed by Congress in 13 years.
- Amended portions of the National Energy Conservation Policy Act.
- Comprehensive
 - Energy Efficiency
 - Renewable Energy
 - Oil & Gas
 - Clean Coal Technologies
 - Nuclear
 - Vehicles
 - Auto Efficiency
 - Hydrogen
 - Electricity
 - Ethanol and Motor Fuels






EPAct of 2005 – Key Features


- Mandates an energy reduction (per SF) for all federal facilities of 2% per year beginning 2006 through 2015 with respect to a 2003 baseline. (20%)
- Allows agencies to retain funds appropriated for energy, water or wastewater treatment expenditures that were not used because of conservation savings and invest them in energy efficiency, water conservation, or unconventional and renewable energy resource projects.
- Mandates that all federal buildings be metered for electrical usage by 10/2012. (Measure on hourly basis and report data on a daily basis.)
- Mandates purchase and specification of Energy Star or FEMP designated products.
- Requires the installation of 20,000 solar energy systems in federal buildings by 2010. (Authorizes funds for a solar wall for the Forrestal Building).
- Mandates selection of only “premium” efficient motors between 1-500 hp.






EPAct of 2005 – Key Features


- Amends the Solid Waste Disposal Act to add requirements designed to maximize the use of recovered mineral components (i.e. coal combustion fly ash) in cement used on federal projects.
- Moves start of Daylight Savings Time from first Sunday of April to second Sunday of March. Moves end from last Sunday in October to first Sunday in November.
- DOE will develop regulations containing goals for 2008-2010 to stimulate the market for fuel cell vehicles and hydrogen energy systems. By 2010 federal agencies will be required to purchase fuel cell vehicles and hydrogen energy systems.
- Creates new energy standards for many products: beverage vending machines, furnace fans, fluorescent lamp ballasts, ceiling fans, exit signs, dry type transformers, traffic lights, heaters, dehumidifiers, package A/C units, refrigerators/freezers, ice makers.
- Mandates GSA study on advantages/ disadvantages of intermittent escalators.






EPAct of 2005 – Key Features


- Extends authority of federal agencies to enter into energy savings performance contracts from Oct 2006 to Oct 2016.
- Authorizes expansion of Strategic Petroleum Reserve capacity from 700 million barrels to 1 billion barrels.
- Renews Price Anderson nuclear liability protection for 20 years to encourage advanced modular nuclear reactor development.
- Provide grants to states and local gov'ts under the "Clean Cities" program to acquire alternative fueled and fuel cell vehicles and hybrids.
- Launches a state-of-the-art program to get hydrogen powered autos on the road by 2020 along with necessary infrastructure.
- Requires at least 80% of all dollars appropriated from the Leaking Underground Storage Tank trust fund to be sent to the states for operating leaking underground tank programs.





EPAct of 2005 – Key Features

- Prohibits federal facilities from exempting themselves from complying with all federal, state and local underground tank laws.
- Directs the federal gov't to use more renewable energy, with a goal of using 7.5% or more by 2013.
- Provides renewable energy production incentives for solar, wind, geothermal, biomass and (new) landfill gas.





Presidential Memorandum “Energy and Fuel Conservation by Federal Agencies”

- Issued September 26, 2005
- ‘Spawned’ by Hurricanes Katrina 8/29 and Rita 9/24
- Followed by:
 - Memo from DOE Secretary Bodman on 10/4
 - Re-iterated short term response
 - Need for longer strategy and link to EPOA of 2005.
 - Memo from Linton Brooks on 10/17
 - Established 2006 stretch goal for NNSA.





NNSA Stretch Goal

Reduce (total) energy consumption by not less than 10 percent relative to FY2004 usage by the end of FY2006.





DOE’s Energy Use Ranking

DOE’s place in agency energy use (FY04 data):

- Electricity – 3rd (USPS 2nd)
- Nat. Gas – 4th (VA 2nd)
- Fuel Oil – 2nd (VA 3rd)
- Gasoline – 7th (USPS 2nd)
- Diesel – 4th (DHS 2nd)
- Total – 4th





Strategies – Short Term

(as contained in Secretary Bodman memo)

1. Develop a plan for emergency energy reduction. Identify loads (i.e. mission critical, non critical, life/safety).
2. Develop a employee alert system (load shedding, weather, dress).
3. Raise indoor temperature set points (68 heating, 78 cooling).
4. Shut down non-critical heating/cooling one hour before closing each workday.
5. Turn off non-essential loads (i.e. escalators, fountains, etc.).
6. Reduce corridor lighting.
 - Turn off fluorescent lights when leaving for more than 5 minutes (1 minutes during energy emergencies).
 - Turn off lights in areas with sufficient daylighting.
 - Use task lighting instead of general lighting.
 - Turn off decorative and display lighting.
7. Turn off printers and monitors when not in use.
8. Ensure Energy Star power down features are activated.
9. Turn off (prohibit) personal space heaters and other appliances.
10. Allow casual attire.
11. Have good weather and ignore manage complaints.





Strategies – Long Term

(as contained in Secretary Bodman memo)

1. Install sub-metering to identify high intensity loads.
2. Install switching capability by load types.
3. Investigate thermal storage systems for air conditioning.
4. Install motion sensors for lighting control.
5. Install EMCSs.
6. Consider on-site energy generation (micro turbines, fuel cells, solar)
7. Consider acquiring a Resource Efficiency Manager.
8. Install low flow faucets.
9. Repair insulation/caulking.
10. Fix steam leaks/traps