

# Memorandum

DATE: September 18, 2009

REPLY TO:  
ATTN OF: Office of Energy Efficiency and Renewable Energy,  
Federal Energy Management Program (FEMP), EE-2L

SUBJECT: Reporting Guidance for FY 2009 Annual Report on Federal Government Energy Management

TO: Federal Agency Energy Coordinators

## **Background**

This purpose of this memo is to communicate Federal agencies' requirements and due dates for annual reporting on energy and water management activities mandated by the National Energy Conservation Policy Act (NECPA), Energy Policy Act of 2005 (EPACT '05), Energy Independence and Security Act of 2007 (EISA), and Executive Order (E.O.) 13423 *Strengthening Federal Environmental, Energy, and Transportation Management*. The Department of Energy's (DOE) Federal Energy Management Program (FEMP) has prepared this reporting guidance to address these requirements with the intent of minimizing the reporting burden on agencies.

## **Purpose of Reporting**

Information and data collected from the agencies will be used to develop DOE's FY 2009 *Annual Report to Congress on Federal Government Energy Management*. This report is required under Section 548 of NECPA and describes energy management activities in Federal facilities and operations and progress in implementing the requirements of NECPA, EPACT '05, EISA, and Executive Order 13423. Final distribution of the report includes the House Committees on Appropriations, Energy and Commerce, Government Reform, and Science, as well as the Senate Committees on Appropriations, Energy and Natural Resources, and Homeland Security and Governmental Affairs. In addition to the distribution indicated above, data contained in the annual report are provided to other Federal agencies, including the Bureau of Economic Analysis and Energy Information Administration; State and local governments; private companies and citizens, and non-government organizations.

## **Summary of Changes from Prior Year Reporting**

Many of the new requirements of EISA were addressed in the reporting guidance for FY 2008 and through an interim data call in June 2008 related to the designation and evaluation of "covered facilities" under Section 432 of EISA. The new reporting for Section 432 of EISA is not covered in this data call for FY 2009, but will continue upon the deployment of the required Web-based tracking system in 2010. FEMP is developing the system which will be pre-populated with the information already submitted by agencies, will beta-test it this fall, and offer agencies the opportunity to review and certify their EISA Section 432 data in time for the June 2010 reporting deadline. For the most part, this end-of-year reporting guidance is little changed in format from FY 2008 and minor necessary adjustments and clarifications are described below. More significant changes in reporting are expected for FY 2010 as new requirements are addressed and FEMP works to accommodate them in the most streamlined approach possible.

### ***Renewable Energy***

The only changes in renewable energy reporting for FY 2009 pertain mainly to the *purchase* of renewable energy and the impact of these purchases on agency performance toward energy intensity reduction goals. The changes in these calculations have been embedded in the formulae of the FY 2009 Energy Management Data Report, but the reporting is the same as last year's.

FY 2009 is the second year for phasing out the credit agencies receive toward their reduction goals for purchases of renewable energy. Through FY 2011, the credit will gradually be reduced to zero. Purchases of renewable energy or Renewable Energy Certificates (RECs) may only contribute up to 4.8 percent of the 12 percent annual energy reduction goal for FY 2009. Long-term renewable energy or REC purchases of 10 years or more of renewable energy that contribute to the development of new renewable energy resources may only contribute up to 7.2 percent of the annual energy reduction goal for FY 2009.

More details on renewable energy goals and reporting are contained in the *FEMP Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423*, available on FEMP's website: [http://www.eere.energy.gov/femp/pdfs/epact05\\_fedrenewenergyguid.pdf](http://www.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf).

### ***Metering Reporting Clarifications***

To accommodate the OMB Energy Management Scorecard performance metric, agencies are asked report the cumulative number of appropriate buildings that are individually metered for electricity whether they are metered with standard *or* advanced meters. To clarify, agencies should only report a building once if it happens to be metered with both standard and advanced meters. In these situations, report the building as advanced metered. This also applies to reporting the cumulative amount of electricity separately metered in appropriated buildings.

EISA expanded this requirement to also include separate metering of natural gas and steam in appropriate buildings. Reporting progress on this requirement will commence in FY 2010.

### ***Water Costs Reporting Clarification***

When reporting annual costs for water consumption, agencies should include sewer/disposal fees and other costs incurred directly from the water consumption. This annual water cost data is for informational purposes and does not affect goal performance which is measured in terms of gallons per square foot of facility space.

### **Reporting Package Components and Due Date**

The FY 2009 Agency Annual Report on Energy Management is required to be submitted to DOE no later than **January 4, 2010**. This includes the Annual Energy Management Data Report with energy consumption and cost data for 2009, lists of goal-excluded buildings and new building designs, and required narrative.

### **Reporting Guidance and Attachments**

The Reporting Guidance for the FY 2009 Annual Report on Federal Agency Energy Management (Attachment 1 to this memo) provides an outline for what should be included in each agency's narrative report.

Attachment 2 to this memo provides supplemental clarification and guidance pertaining to the energy and water management goals of Executive Order 13423 and the statutory requirements.

This guidance references more detailed guidelines and documents that are not included, but are available on FEMP's web site at: <http://www.eere.energy.gov/femp/regulations/guidance.html>.

A blank 2009 Annual Energy Management Data Report and instructions for completing the form comprise Attachment 3 to this memo. Electronic versions of data and reports are encouraged in addition to official paper submissions. An electronic version of the Energy Management Data Report in Excel is available on FEMP's web site at: [http://www.eere.energy.gov/femp/regulations/facility\\_requirements.html](http://www.eere.energy.gov/femp/regulations/facility_requirements.html).

A unit conversion chart comprises Attachment 4 to this memo. This should be useful reference for agencies when preparing their annual reports.

**Point of Contact**

The requested information should be sent electronically to: [chris.tremper@ee.doe.gov](mailto:chris.tremper@ee.doe.gov).

Paper submittals may be mailed to:

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If you have any questions, please contact Chris Tremper at (202) 586-7632. Thank you for your cooperation and diligence in promoting energy efficiency. With your help, we can achieve our mandated energy and water efficiency goals and save taxpayer dollars.

Richard Kidd  
Program Manager  
Federal Energy Management Program  
Office of Energy Efficiency and Renewable Energy

**Attachments:**

- |              |   |
|--------------|---|
| Attachment 1 | Reporting Guidance for FY 2009 Federal Agency Annual Report on Energy Management  |
| Attachment 2 | Energy and Water Goals Performance Measurement Issues: Clarification and Guidance |
| Attachment 3 | 2009 Annual Energy Management Data Report   |
| Attachment 4 | Reporting Units and Conversion Factors for Federal Energy Management Reporting    |

## **ATTACHMENT 1**

### **Reporting Guidance for FY 2009 Federal Agency Annual Report on Energy Management**

## OUTLINE AND INSTRUCTIONS FOR THE ANNUAL REPORT

- I. MANAGEMENT AND ADMINISTRATION.** This section will describe (1) the agency's establishment of an energy management infrastructure and (2) the agency's use of management tools to implement Executive Order 13423.

### A. Energy Management Infrastructure

- 1. Senior Agency Official.** Identify the agency's Senior Official designated to the E.O. 13423 Steering Committee and describe the official's role and responsibilities, particularly as they pertain to energy and water management.
- 2. Agency Energy Team.** Identify the members of the team and describe the team's responsibilities and interactions with cross-functional teams designated to expedite the implementation of E.O. 13423.

### B. Management Tools

- 1. Awards (Employee Incentive Programs).** Describe the agency's use of employee incentive programs to reward exceptional performance in implementing Executive Order 13423. (See *Instructions for Implementing Executive Order 13423*, Section I, part D(5), [http://www.ofee.gov/eo/eo13423\\_instructions.pdf](http://www.ofee.gov/eo/eo13423_instructions.pdf).)
- 2. Performance Evaluations.** Describe agency efforts to include successful implementation of provisions of Executive Order 13423 in the position descriptions and performance evaluations of senior energy officials, members of the agency energy team, heads of field offices, and facility/energy managers. (See *Instructions for Implementing Executive Order 13423*, Section I, part D(4)).
- 3. Training and Education.** Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. This reporting is required by a section of Energy Policy Act of 1992 (42 U.S.C. § 8262c) that is still in effect. (Note: The expenditures and number of employees trained will be reported on the agency's Data Report.) Describe agency outreach programs that include education, training, and promotion of ENERGY STAR<sup>®</sup> and other energy efficient and low standby power products for Federal purchase card users.

- II. ENERGY EFFICIENCY PERFORMANCE.** This section will highlight progress toward the performance metrics compiled and calculated in the Annual Energy Management Data Report. The purpose of the section is to provide narrative information in support of these data as well as showcase particular agency initiatives and projects contributing to the goals of EPACT '05, E.O. 13423, and EISA.

### A. Energy Intensity Reduction Performance

- 1. Goal Subject Buildings.** Report energy use for buildings in units of Btu-per-gross-square-foot (Btu/GSF) for FY 2003 (the base year) and FY 2009. Report the percent change from FY 2003 and from FY 2009. (Note: This information will be reported on the performance summary spreadsheet incorporated into the Annual Energy Management

Data Report). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

2. **Excluded Facilities.** Refer to Section IV (B) of this guidance—a list of excluded facilities and an explanation of why they were excluded. (Refer to DOE’s *Criteria Guidelines Establishing Criteria for Excluding Buildings from the Energy Performance Requirement*, See: [http://www.eere.energy.gov/femp/pdfs/exclusion\\_criteria.pdf](http://www.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf).) These guidelines fulfill the requirement under Section 543(c)(3) of NECPA as amended by EPACT ’05. Section 543(c)(3) states that the Secretary of Energy shall issue guidelines that establish criteria for exclusions from the energy performance requirement for a fiscal year, any Federal building or collection of Federal buildings, within the statutory framework provided by the law. These guidelines were developed through an interagency working group process under the auspices of the Federal Interagency Energy Management Task Force which subsequently concurred with the final product.
3. **Non-Fleet Vehicle and Equipment Fuel Use.** Refer to the Data Report to identify the fuel use for non-fleet vehicles and other equipment not captured by the Federal Automotive Statistical Tool (FAST) reporting system. Discuss trends in the use of this category of fuel use and methods employed to reduce fuel use.

**Vehicle Fleet Consumption**—In the past, GSA’s Agency Report of Motor Vehicle Data (Form SF-82) collected acquisition, fuel consumption, and fuel cost data for motor vehicles directly from vehicle fleet managers. The SF-82 was replaced by the Federal Automotive Statistical Tool (FAST), an internet-based reporting platform. FAST eliminates the need to report fuel consumption data for fleet motor vehicles to FEMP on the Data Report. FAST now collects this data, including alternative fuel consumption data reported under Sections 303 and 308 of EPACT, and this information is forwarded to FEMP for inclusion in the Annual Report to Congress. For more information on FAST, please contact Brad Gustafson of DOE’s Federal Energy Management Program at (202) 586-5865.

- B. Renewable Energy.** Discuss agency’s policy and efforts to encourage purchase and generation of electricity and thermal energy from renewable energy sources. The quantitative information related to this section will be reported on the agency’s Data Report. More details on the changes to renewable energy reporting are contained in the *FEMP Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423*, available on FEMP’s website: [http://www.eere.energy.gov/femp/pdfs/epact05\\_fedrenewenergyguid.pdf](http://www.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf).
1. **Self-generated renewable energy.** Summarize agency activities and highlight specific recent projects related to energy use from electricity self-generated from renewable sources and renewable energy thermal projects. Also discuss energy generated on Federal or Indian lands, but which may be sold to other parties.
  2. **Purchased renewable energy.** Summarize agency purchases of renewable energy in the form of RECs or as part of competitive power purchases. Discuss highlights of major purchases and approaches taken to obtain renewable energy through purchases.

- C. Water Conservation.** Identify/estimate water consumption and cost by the agency in FY 2009 and outline any agency-specific issues related to collection of water consumption data. (Note: This information will be reported on the Data Report.) Also in this section, highlight activities undertaken to improve water efficiency. For more information, refer to DOE's supplemental guidance document, *Establishing Baseline and Meeting Water Conservation Goals of Executive Order 13423* on the FEMP website: [http://www.eere.energy.gov/femp/pdfs/water\\_guidance.pdf](http://www.eere.energy.gov/femp/pdfs/water_guidance.pdf).
- D. Metering of Electricity Use.** EPCACT '05, Section 103, requires all Federal agencies to install metering and advanced metering where found to be cost-effective, according to guidelines developed by DOE (refer to: [http://www.eere.energy.gov/femp/pdfs/adv\\_metering.pdf](http://www.eere.energy.gov/femp/pdfs/adv_metering.pdf)). Agencies are required to install standard or advanced meters at all Federal buildings to the maximum extent practicable, by October 1, 2012 and were to submit implementation plans to accomplish this in August 2006. Agencies are required to report on their progress as part of their annual input to the DOE Report to Congress. Progress will be measured based on the percentage of appropriate buildings metered and the percentage of agency electricity consumption represented by those buildings. The quantitative information related to this section will be reported on the agency's Data Report in Table 2-4. Starting with FY 2008, agencies will be required to report progress on both buildings with standard meters and buildings with advanced meters as well as the total number of buildings for which separate electric meters are appropriate. Agencies should describe progress made in FY 2009 in meeting the milestones of their metering implementation plans.
- E. Federal Building Energy Efficiency Standards.** EPCACT '05, Section 109, requires that new Federal buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the ASHRAE Standard or the International Energy Conservation Code, as appropriate, if life-cycle cost-effective. DOE published the Interim Final Rule for new Federal building energy efficiency standards in the Federal Register, Vol. 71, No. 232, December 4, 2006, 70275 (see [http://www.eere.energy.gov/femp/pdfs/fr\\_notice\\_cfr433\\_434\\_435.pdf](http://www.eere.energy.gov/femp/pdfs/fr_notice_cfr433_434_435.pdf)). The prevailing private sector standards referenced are ANSI/ASHRAE/IESNA Standard 90.1-2004 for commercial and high-rise multi-family residential buildings and the 2004 Supplement to the IECC for low-rise residential buildings. Both Standard 90.1-2004 and the 2004 IECC are incorporated by reference into the new Federal standards. The new standards may be found in 10 Code of Federal Regulations (CFR) Part 433 for commercial and high-rise multi-family residential buildings and in 10 CFR Part 435 Subpart A for low-rise residential buildings.

The quantitative information related to this section will be reported on the agency's Data Report in Table 2-5. In addition, the statute requires that agencies provide the following in their annual reports:

1. a list of all new Federal buildings owned, operated, or controlled by the Federal agency, for which designs were started since the beginning of FY 2007 (begun since October 1, 2006), and
2. a statement specifying whether the Federal buildings are expected to meet or exceed the Federal building efficiency standards.

A template for listing all new Federal building designs initiated since FY 2007 is included as a separate worksheet to the Annual Energy Management Data Report workbook. (Note:

Only new buildings which *began the design phase* after the beginning of FY 2007 need to be listed. Buildings for which construction was completed in FY 2007 and after do not need to be listed if they were designed prior to FY 2007.)

**III. IMPLEMENTATION HIGHLIGHTS OF FY 2009.** The purpose of this section is to identify and describe results and accomplishments to reduce energy consumption and improve energy efficiency. It is not expected that each agency will have employed every strategy; rather, the strategies identified below are intended to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective. Agencies should provide highlights of the following strategies their energy management programs employed during FY 2009:

- Life-Cycle Cost Analysis
- Retrofits and Capital Improvement Projects
- Use of Performance Contracts
  - Energy-Savings Performance Contracts (ESPCs)
  - Utility Energy Services Contracts (UESCs).
- Use of ENERGY STAR<sup>®</sup> and Other Energy-Efficient Products
- Sustainable Building Design and High-Performance Buildings
- Energy Efficiency/Sustainable Design in Lease Provisions
- Distributed Generation, including use on on-site renewable energy resources and combined cooling, heating, and power systems

**IV. DATA TABLES AND INVENTORIES.** Include the items listed below in the order given.

**A. FY 2009 Annual Energy Management Data Report.** A blank Data Report form and instructions for completing the form are included as Attachment 3 of this Guidance. Also include Data Reports for revisions to past years' energy data along with an explanation

**B. Excluded Facilities Inventory.** This should include the following information: building name, building location (city and state), and justification for excluded status under the criteria developed for EFACT '05: [http://www.eere.energy.gov/femp/pdfs/exclusion\\_criteria.pdf](http://www.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf).



## **ATTACHMENT 2**

### **Energy and Water Goals Performance Measurement Issues: Clarification and Guidance**

## **ENERGY AND WATER GOALS PERFORMANCE MEASUREMENT ISSUES: CLARIFICATION AND GUIDANCE**

### **PURPOSE**

This document provides overarching clarification and guidance pertaining to the energy management goals of Executive Order 13423, its associated Implementing Instructions, and the Energy Policy Act of 2005.

In addition, this supplemental guidance incorporates by reference three other FEMP guidance documents:

- *Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423* [http://www.eere.energy.gov/femp/pdfs/epact05\\_fedrenewenergyguid.pdf](http://www.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf)
- *Guidance for Establishing a Baseline and Meeting the Water Conservation Goal of Executive Order 13423* [http://www.eere.energy.gov/femp/pdfs/water\\_guidance.pdf](http://www.eere.energy.gov/femp/pdfs/water_guidance.pdf)
- *Guidance Providing Credit Toward Energy Efficiency Goals for Cost-Effective Projects Where Source Energy Use Declines But Site Energy Use Increases* [http://www.eere.energy.gov/femp/pdfs/sec502e\\_%20guidance.pdf](http://www.eere.energy.gov/femp/pdfs/sec502e_%20guidance.pdf)

### **GOAL PERFORMANCE AND REPORTING UNDER EXECUTIVE ORDER 13423**

#### **1. Energy Intensity Reduction Goal (Section 2a)**

1.1. The **definition of “energy intensity”** is understood to be in alignment with the goals of the Energy Policy Act of 2005. E.O. 13423 and EPACT are measuring performance the same way for the same set of facilities.

1.1.1. “energy consumption” in the E.O. definition of “energy intensity” is understood to mean the energy that is used at a building or facility and measured in terms of energy delivered to the building or facility (site-delivered Btu) and does not include generation and transmission losses for electricity and steam/chilled water.

1.1.2. “square foot” in the E.O. definition of “energy intensity” is understood to mean “gross square foot” as used in EPACT.

1.1.2.1. “gross square foot” is generally defined as the total area in a building for all floors to the outer surface of exterior walls, including elevator shafts, vertical penetrations, equipment areas, ductwork shafts, and stairwells; and excluding areas having less than a 6’-6” clear ceiling height.

1.1.2.2. Agencies may use alternative definitions that comply with their real property inventory systems as long as the definitions are consistent for individual buildings over the entirety of the goal period.

1.1.3. On-site, renewable energy generation projects that do not incur fuel costs and are generally un-metered will be considered conservation projects under this definition of energy intensity and will not be included in the total Btu per gross square foot calculation.

1.2. **Optional Credit for Source Energy Saving Projects.** The Federal Government shall strive to reduce total energy use and associated greenhouse gas and other air emissions, as measured at the source of generation and including conversion and transmission

losses. To that end, agencies shall undertake life-cycle cost-effective projects in which source energy decreases, even if site-delivered energy use increases (as production is moved on site). In such cases, agencies will receive credit toward energy reduction goals. The reason for the credit is so that agencies are not penalized under the site-delivered energy reduction goals for cost-effective projects where source energy decreases but site-delivered energy increases (i.e., cogeneration projects).

1.2.1. “Source energy” is the sum of the energy consumed at a facility to perform a specific function, such as space conditioning, lighting, or water heating and the energy required to generate and deliver that energy, including, but not limited to, power generation, transmission, and distribution losses.

1.2.2. FEMP’s *Guidance Providing Credit Toward Energy Efficiency Goals for Cost-Effective Projects Where Source Energy Use Declines, but Site Energy Use Increases* ([http://www.eere.energy.gov/femp/pdfs/sec502e\\_%20guidance.pdf](http://www.eere.energy.gov/femp/pdfs/sec502e_%20guidance.pdf)) is incorporated by reference into this guidance.

1.3. **Greenhouse Gas Emission Estimates.** Although GHG reduction is mentioned as an intention of the E.O. 13423 Section 2(a) goal, there is not currently an actual quantitative goal for GHG reduction. However, FEMP will continue to estimate emissions based on agency-reported energy consumption.

1.3.1. FEMP’s approach for estimating the carbon dioxide-equivalent emissions of carbon dioxide, methane, and nitrous oxide from Federal facility energy use is detailed in Appendix B of the FY 2007 *Annual Report to Congress on Federal Government Energy Management*.

1.3.1.1. Not all of the gases mentioned in the E.O. definition can be estimated solely on the energy data provided by the agencies, but FEMP has drafted a method for estimating emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) from agency energy use.

1.3.1.2. Carbon dioxide is overwhelmingly the largest component of GHG emissions from energy use. Even considering the higher global warming potential (GWP) of methane and nitrous oxide, they still make up less than a half of a percent of the GWP of carbon dioxide emissions for any facility fuel.

1.3.1.3. Since agencies do not report electricity use disaggregated by region, FEMP will use a nationally-derived factor for estimating GHG emissions from electricity use.

1.3.1.4. Agencies have the option of estimating GHG emissions from their energy use independently based on disaggregated or more detailed data provided that 1) estimates are provided to FEMP for inclusion in Federal Government totals, and 2) agencies provide a detailed description of their estimation methodology.

1.3.2. When reporting GHG estimates in annual reports to Congress and the President, emissions will be reported on a square foot basis (metric tons of CO<sub>2</sub>-equivalent per gross square foot (MTCO<sub>2</sub>E/GSF)) as well as in absolute terms (MTCO<sub>2</sub>E).

1.3.2.1. Purchases of all forms of renewable energy used in facilities will be factored out of GHG emission estimates.

- 1.3.2.2. Estimated GHG emissions from facilities excluded from the energy intensity reduction goals of E.O. 13423 and EPACT will not be included in the totals.

#### **1.4. Facilities Covered by the Goals.**

1.4.1. To maintain alignment with EPACT and current reporting conventions, the broader statutory definition of “Federal building” will be used, applying the E.O. 13423 Section 2(a) goal to Federal buildings outside the United States.

1.4.1.1. The National Energy Conservation Policy Act, as amended by EPACT, defines Federal building as follows:  
“the term ‘Federal building’ as meaning 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.”

1.4.2. As noted in the E.O. 13423 Implementing Instructions, the goals set forth in section 2(a) of E.O. 13423 are subject to the exclusions set forth in Section 102(c), (d), and (e) of EPACT 2005 and the DOE *Guidelines Establishing Criteria for Excluding Buildings from the Energy Performance Requirements* ([http://www.eere.energy.gov/femp/pdfs/exclusion\\_criteria.pdf](http://www.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf)), issued on January 27, 2006.

1.4.2.1. The E.O. 13423 Implementing Instructions also note that the section 2(b) renewable energy goal is subject to the above exclusion, however it should be clarified that when measuring progress toward the renewable energy goal, the electricity consumption of all facilities, including excluded facilities, is included in determining agency percentage of renewable energy use.

#### **2. Renewable Energy Goals of E.O. 13423 Section 2(b) and EPACT**

2.1. FEMP’s *Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423* is incorporated by reference into this guidance.

#### **3. Water Consumption Intensity Reduction Goal of E.O. 13423 Section 3(c)**

3.1. FEMP’s *Guidance for Establishing a Baseline and Meeting the Water Conservation Goal of Executive Order 13423* is incorporated by reference into this guidance.

## **ATTACHMENT 3**

### **FY 2009 Energy Management Data Report and Accompanying Instructions**

**(See separate file: EnergyDataReport FY09 Final 18Sept2009)**

## INSTRUCTIONS FOR PREPARING THE FY 2009 ANNUAL ENERGY MANAGEMENT DATA REPORT

*What is the purpose of this information?*

Executive Order 13423 and NECPA as amended by EPACT '05 and EISA require agencies to track and reduce their energy and water use in buildings and facilities.

*How will this information be used?*

The Department of Energy (DOE) will review and aggregate the numerical data and other information included in the report to Congress to ensure the progress of each agency and to provide a government-wide picture of progress toward the mandated goals.

*Do I need to report on energy use, costs, and efficiency?*

If your agency controls its Federally-owned building space or directly pays the utilities in its leased space, then you must report your agency's aggregate energy consumption for each of the fuel types listed below. Reporting on leased buildings may pose some difficulty depending on the nature of the lease (partially serviced, fully serviced). If your agency leases space from the General Services Administration, GSA is responsible for reporting energy data for that space. If all of your space is leased from GSA, and if you do not pay any energy surcharges, then you do not have to report any data in this section.

If your agency has been delegated responsibility by GSA for operation and maintenance of the buildings you occupy, then you are required to report energy consumption for these buildings for any years in which the buildings are under your control.

You must complete the applicable tables shown in the Data Report. Part 1 consists of nine tables concerning energy and water consumption and cost data. Part 2 consists of six tables concerning energy efficiency improvements.

If your energy or water bills have different units of measurement from the ones required here, you must convert the data. For conversion units not given in the explanations for individual sections, refer to Attachment 4 of this reporting guidance (which includes conversion tables).

*Tables 1-1 and 1-2 (NECPA/E.O. 13423 Goal Subject Buildings, Excluded Facilities)*

For each category of buildings and facilities (NECPA/E.O. 13423 Goal Subject Buildings, Excluded Facilities), report how much of each of the following types of energy your agency used and how much you spent for that type of energy.

You must submit all data in the reporting units shown below for each energy type. For each quantity of energy consumed, round to the nearest tenth of an integer, (i.e., 1,289.3 megawatt hours). For cost data, enter the annual cost for each energy type in thousands of dollars, rounded to the nearest tenth of an integer, (e.g., \$77.4 for \$77,358).

<i>Energy type</i>	<i>Reporting unit</i>
Electricity	(megawatt hours)
Fuel oil	(thousands of gallons)
Natural gas	(thousand cubic feet)
LPG/propane	(thousands of gallons)
Coal	(short ton)
Purchased steam	(billion Btu)

Other (billion Btu)

Report the gross square footage of the buildings and facilities in your agency's inventory for each reporting category. Enter this number in thousands of square feet, rounded to nearest tenth of an integer.

Report the official baseline FY 2003 energy intensity in Btu per gross square foot for each reporting category (Goal-Subject Buildings and Goal-Excluded Facilities). If you are unclear or not sure what the official base year Btu/GSF is for your agency, contact the Federal Energy Management Program.

Throughout the Data Report workbook, data input cells are in the dark blue font. All other cells are calculated automatically based on your inputs and provide additional useful information on goal performance, prices, conversions to site-delivered and source Btu, and estimated greenhouse gas emissions. Additionally, pop-up comments in certain cells provide information pertaining to the cells' content and formulas.

Purchases of electric and non-electric renewable energy have their own rows in Tables 1-1 and 1-2. These data are automatically calculated from the inputs entered in Table 1-6. Please ensure that all renewable energy consumption and costs are entered in Table 1-6 and not included under entries for other energy types in Tables 1-1 and 1-2.

*Table 1-3. Non-fleet vehicles and other equipment.*

Table 1-3 includes information on the fuel use of non-passenger vehicles and equipment and non-vehicle engines like mobile generators that is not captured by the Federal Automotive Statistical Tool (FAST) reporting system. For all liquid engine fuels, report your agency's total use in thousands of gallons of each type of fuel listed in the Data Report. If you used significant quantities of a fuel not listed, report its use in billions of Btu. (See the detailed FEMP reporting guidance for conversion tables if necessary.)

*Optional Table 1-3a. Fleet Vehicle Consumption and Costs Captured by the FAST System* is provided for convenience for agencies that would like all of their energy consumption and cost data compiled onto one form. Input for this optional table directly reflects the format of Section IV, Part C, of the *Annual Fuel Consumption Report, by Fuel Type of FAST SF 82 - Aggregate Combined Report* as generated from FAST. Reporting units for consumption are Gasoline Equivalent Gallons (GEG).

*Table 1-4. Renewable Energy Generated on Federal or Indian Land Where RECs are retained by the Government.*

In order to get credit toward the renewable energy goal, agencies must provide information on self-generated electricity from renewable sources. Because this energy is not reported in Tables 1-1 or 1-2, it must be reported here to be counted toward the renewable energy goal. Report number of projects and electricity produced by renewable source and according to whether the project was placed in service after January 1, 1999 (New), or placed in service before January 1, 1999 (Old). In addition to the annual electricity produced, report the amount of that electricity that came from projects on Federal or Indian lands. Usually this will be the same as the amount produced, but there are cases where agencies have projects that are on private lands – for example solar systems that power monitors for water levels in streams or air quality. Energy produced on Federal or Indian land and used by an agency qualifies for a bonus.

Also report the number of projects and the amount of non-electric renewable energy produced and used at a Federal facility. This renewable energy, however, does not count toward the statutory renewable energy goal. For more information on the renewable energy goal counting methodology, refer to the



FEMP Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423, available on FEMP's website: [http://www.eere.energy.gov/femp/pdfs/epact05\\_fedrenewenergyguid.pdf](http://www.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf).

*Table 1-5. On-Site Renewable Energy Generation Where RECs are Not Retained by the Government*

This table is necessary to accommodate the renewable energy goal counting methodology which allows agencies to qualify for the on-site generation bonus if they have purchased an equivalent amount of new RECs. Enter the amount of renewable electricity produced or used and the amount qualified to be applied toward the goal will be calculated based on data entered in Table 1-6.

*Table 1-6. Renewable Energy/Renewable Energy Certificate Purchases in FY 2009*

Federal agencies have opportunities to purchase renewable energy from utilities as part of "green power" pricing programs or through Renewable Energy Certificates (RECs or "Green Tags") that allow agencies to purchase only the renewable attributes of electricity without purchasing the electricity itself. Your agency will get credit toward meeting the goals of E.O. 13423 by distinguishing renewable energy purchases from conventional purchases, and reporting the portion of energy attributable to renewable sources.

All renewable energy purchased and consumed by agencies will be entered in Table 1-6 only and automatically incorporated into Tables 1-1 and 1-2 as appropriate. You must report the following information for *each* type of renewable energy/renewable energy certificate purchase on Table 1-6. It may be necessary to insert additional rows into Table 1-6 to account for every different type of purchase, being mindful of the color-coded rows distinguishing electricity (green), RECs (blue), and non-electric renewable energy (orange) and the darker colored rows for "new" renewable energy and the lighter colored rows for "old" renewable energy. Insert additional rows between the two rows of each color-coded category provided.

- *Amount Purchased (MWH or Million Btu).* Report the amount of renewable energy or RECs purchased in the appropriate column, megawatthours for electricity or million Btu for other forms of energy.
- *Annual cost (Thousands of Dollars).* Report the annual cost of the renewable energy or RECs purchased for use in FY 2009 for each type of purchase in thousands of dollars, rounded to the nearest tenth of an integer, (e.g., \$77.4 for \$77,358). The reported cost should correspond with the amount of renewable energy used during the fiscal year, regardless of when the purchase occurred.
- *Portion of Total Purchased from Projects on Federal or Indian Lands.* Report this amount in appropriate unit (MWH or Million Btu). This will help determine whether the purchase qualifies for a bonus.
- *Purchase Term (Long-Term or Regular/Short-Term).* Report whether the renewable energy or REC purchase is a long-term or regular (short-term) purchase, i.e., 1) for long-term purchases of 10 years or more, enter "Long"; 2) for regular, short-term purchases of less than 10 years, enter "Short". This will ensure that the partial credit toward the energy intensity reduction goal is properly applied.
- *End-Use Category.* Report which facility end-use category the credit for the renewable energy purchase or RECs should be applied to, i.e., 1) for Goal-Subject Buildings, enter "Goal"; or 2) for Excluded Facilities, enter "Excluded". By entering the category as indicated, the spreadsheet

will sum the purchases to the appropriate category, and credit the purchases toward the Btu/Gross Square Feet figures in Tables 1-1, and 1-2.

*Table 1-7. Goal-Eligible Renewable Energy Use as a Percentage of Facility Electricity Use*

This table is calculated by formulas from the data entered in Tables 1-4 through 1-6 according to the counting methodology of the *FEMP Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423*.

*Table 1-8. All Renewable Energy Use (Including Non-Electric) as a Percentage of Facility Electricity Use*

This table is calculated by formulas from the data entered in Tables 1-4 through 1-6 and is for informational purposes only.

*Table 1-9. Water Use Intensity and Cost*

For buildings and facilities subject to the water goal, report the amount of annual water consumption of the agency in millions of gallons and annual costs (including sewer fees, etc.) incurred directly from the water consumption in thousands of dollars. Enter the associated facility gross square footage in thousands of gross square feet (if different from square footage of energy consuming facilities). Also report the approximate percentage of reported water consumption that is estimated. For OMB Scorecard purposes for FY 2009, note whether the water intensity baseline is considered preliminary or final. For more information, refer to DOE's supplemental guidance document, *Establishing Baseline and Meeting Water Conservation Goals of Executive Order 13423* on the FEMP website:

[http://www.eere.energy.gov/femp/program/waterefficiency\\_goalguidance.html](http://www.eere.energy.gov/femp/program/waterefficiency_goalguidance.html).

*Table 2-1. Direct agency obligations.*

These are obligations for energy or water efficiency incurred from appropriated funds, revolving fund accounts, or other accounts that belong to your agency; for example, obligations for purchases of compact fluorescent lights to replace incandescent bulbs, or replacement chillers paid for directly by your agency rather than through an energy savings performance contract. They do not include anything to be paid for or financed by a third party (e.g., a utility or energy-savings performance contractor). Report training data separately in table 2-6. Provide information on the funds your agency obligated or plans to obligate for each reporting year. Enter amounts in thousands of dollars rounded to the nearest tenth of an integer.

NOTE: If your agency is financing all or part of a project(s) through an Enhanced Use Lease(s), please contact FEMP for assistance in reporting this information.

*Table 2-2. Energy savings performance contracts.*

Energy savings performance contracts (ESPCs) are contracts that allow a private-sector energy services company (ESCO) to perform energy-efficiency improvements at a government facility using private financing, rather than the government paying for the work directly. The ESP contracts provide that the contractor guarantees a certain level of energy cost savings, and based on that guarantee, the government will pay the contractor over the agreed number of years amounts that cannot exceed the guaranteed savings in any year until the improvements have been paid off, including interest. Any negotiated performance period services provided by the ESP contractor, such as M&V and maintenance, are also paid for by the government over the term from within the guaranteed savings. ESPCs allow agencies to undertake more and larger efficiency improvements than their budgets might otherwise allow.

The first line of Table 2-2 will show the total number of new ESPC projects awarded by your agency during the reporting year. This includes delivery orders awarded under DOE Super ESPC blanket

contracts and Department of Defense agency blanket contracts as well as site-specific ESPCs and shared energy savings contracts awarded by the U.S. Postal Service. DOE will make available to agencies data on their activity under its Super ESPC contracts to assist in compiling this table. Report new ESPCs signed during the reporting year, in the “number/thou \$” column. (Agencies should treat major modifications to existing contracts/delivery orders as new task/delivery orders in cases where the modifications significantly add work, investment value, and savings.) On the same line, in the “Million Btu” column, enter the total of the average annual energy savings anticipated from all ESPC projects awarded during the year, in millions of site-delivered Btu.

On the second line, enter the total investment value of new ESPCs signed during the reporting year. The investment value of an ESPC task/delivery order is the implementation price (for survey, study, design, construction, commissioning to acceptance, and markup—which includes indirect costs, such as overhead and profit) an ESCO charges to develop and implement the project. Excluded are the government payments (from guaranteed savings) to the contractor during the performance period term for debt repayment (principal and interest) and services (M&V, maintenance, etc.) Also excluded are the government’s administration costs, which agency budget offices will identify on the Circular A-11 form.

On the third line, enter the amount privately financed as a result of new ESPCs signed during the reporting year. The amount privately financed under an ESPC task/delivery order is the permanent financing principal borrowed to implement the project. It equals the investment value, less any utility or systems benefit administrator rebates or incentives, less any government pre-performance period payments, and plus any capitalized interest costs (e.g., construction period interest).

On the fourth line, enter the cumulative guaranteed cost savings of all of the ESPCs you reported on the previous three lines. Each ESPC has a schedule of cost savings to energy and related O&M budgets guaranteed by the ESCO. From these schedules, enter the sum of each year’s guaranteed cost savings.

On the fifth line, report the sum of each awarded ESPC task/delivery order’s total award value (contract price). This is obtainable from the schedule of fixed contractor payments that will be used by the ESCO for debt repayment and performance period services. For the fourth and fifth lines, report the actual contract-negotiated guaranteed cost savings and contract prices in nominal costs. Do not discount each year’s amounts to the present year value.

The last line is the total amount your agency paid or will pay to ESPC contractors during the reporting year as a consequence of all ESPCs signed to date.

*Table 2-3. Utility energy services contracts.*

Utility energy service contracts (UESCs) are similar to ESPCs, except the work is performed by utilities (electric or gas) serving your agency's site. With a UESC, the utility arranges financing to cover all or a portion of the capital costs of the project. Then the utility is repaid over the contract term from the cost savings generated by the energy efficiency measures. These contracts can either be negotiated directly by the site, placed through an existing “area-wide agreement” the utility has with the General Services Administration, or established through a “basic ordering agreement” (more generally used by Department of Defense).

The first line of Table 2-3 will show the total number of new UESC projects awarded by your agency during the reporting year. Report only new UESCs signed during that year, in the “number/thou \$” column. On the same line, in the “Million Btu” column, enter the average annual site energy savings anticipated from the UESCs awarded during the year, in millions of site Btu.

On the second line, enter the total investment value of new UESCs signed during the reporting year. (See instructions for ESPCs above for clarification of investment value.)

On the third line, enter the amount privately financed as a result of new UESCs signed during the year. (See instructions for ESPCs above for clarification of amount privately financed.)

On the fourth line, enter the cumulative cost savings of all of the UESCs you reported on the previous three lines. Each UESC has a schedule of cost savings to energy and related O&M budgets estimated by the utility/contractor. From these schedules, enter the sum of each year's cost savings.

On the fifth line, report the sum of each awarded UESC's total award value (contract price). This is obtainable from the schedule of fixed payments that will be used by the utility for debt repayment and performance period services. For the fourth and fifth lines, report the actual contract-negotiated cost savings and contract prices in nominal costs. Do not discount each year's amounts to the present year value.

The last line is the total amount your agency paid or will pay to utilities/contractors during the reporting year as a consequence of all UESCs signed to date.

*Table 2-4. Metering of Electricity Use*

Report the cumulative number of appropriate buildings in FY 2009 that are individually metered for electricity with standard electricity meters *or* advanced meters along with the percentage of the agency's total electricity consumption represented by the metered buildings. If a building has both standard and advanced meters installed, only report that building once under the advanced meters column. Also enter this information for cumulative standard and advanced meter installations in appropriate buildings that are *planned* for accomplishment in FY 2010. For the purposes of OMB Energy Scorecard rating, metering progress will be measured in terms of percentage of total appropriate buildings metered. Enter the total number of buildings in the agency's inventory for which separate electric meters are appropriate. For more information, refer to FEMP's Guidance for Electric Metering in Federal Buildings ([http://www.eere.energy.gov/femp/pdfs/adv\\_metering.pdf](http://www.eere.energy.gov/femp/pdfs/adv_metering.pdf)).

*Table 2-5. Federal Building Energy Efficiency Standards.*

To meet OMB Energy Management Scorecard reporting requirements, enter the total new building designs started since the beginning of FY 2007 and on the next line, the total new building designs started since the beginning of FY 2007 that are 30 percent more energy efficient than relevant code. (See Interim Final Rule for new Federal building energy efficiency standards in the Federal Register, Vol. 71, No. 232, December 4, 2006, 70275 ([http://www.eere.energy.gov/femp/pdfs/fr\\_notice\\_cfr433\\_434\\_435.pdf](http://www.eere.energy.gov/femp/pdfs/fr_notice_cfr433_434_435.pdf))). A template for listing all new Federal building designs and construction (since FY 2007) is included as a separate worksheet to the Annual Energy Management Data Report workbook.

*Table 2-6. Training.*

Enter the number of Federal personnel or on-site contractors in your agency who received or are expected to receive energy management training in each year, and also enter your expenditures (or budget) during each of those years for energy management training. When counting the number of people who received training, include only people who received organized instruction (i.e., seminars, workshops, conferences), not those who received general-information items like flyers reminding people to turn out lights and turn off computers. The cost of such general information items intended to raise energy awareness among all employees can be included in the training budget entries, however. Travel costs associated with this training should also be included in the cost of the training.

## **ATTACHMENT 4**

### **Reporting Units and Conversion Factors for Federal Energy Management Reporting**

**REPORTING UNITS AND CONVERSION FACTORS FOR FEDERAL ENERGY MANAGEMENT REPORTING**

**NECPA/E.O. 13423 Goal Subject Buildings**

**NECPA/E.O. 13423 Goal Excluded Buildings**

<i>Fuel Type</i>	<i>Reporting Units</i>	<i>BTUs per Reporting Unit</i>	<i>Joules per Reporting Unit</i>	<i>GigaJoules (GJ) per Reporting Unit</i>
Electricity	Megawatt Hour (MWH)	3,412,000	3,599,660,000	3.59966
Fuel Oil	1,000 Gallons	138,700,000	146,328,500,000	146.3285
Natural Gas	1,000 Cubic Feet	1,031,000	1,087,705,000	1.087705
	1,000 Gallons	95,500,000	100,752,500,000	100.7525
	Short Ton	24,580,000	25,931,900,000	25.9319
Purchased Steam	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0
LPG/Propane	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0
Coal				

**Vehicles/Equipment**

<i>Fuel Type</i>	<i>Reporting Units</i>	<i>BTUs per Reporting Unit</i>	<i>Joules per Reporting Unit</i>	<i>GigaJoules (GJ) per Reporting Unit</i>
Auto Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
	1,000 Gallons	138,700,000	146,328,500,000	146.3285
	1,000 Gallons	95,500,000	100,752,500,000	100.7525
Aviation Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
Diesel Jet Fuel	1,000 Gallons	130,000,000	137,150,000,000	137.150
LPG/Propane	1,000 Gallons	138,700,000	146,328,500,000	146.3285
Navy Special				
Other	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0

**Other Conversion Factors**

100 Cubic Feet (Ccf) = 748 Gallons

1 Acre-Foot = 325,851 Gallons

1 Liter = 0.264 Gallons

1 Cubic Meter = 264 Gallons

1 ton-hour of refrigeration = 12,000 Btu