From: "Tremper, Chris" <ctremper@mcneiltech.com>
To: "'Kxm@nrc.gov'" <Kxm@nrc.gov>, "'aga@nrc.gov'" <aga@nrc.gov>
Date: 11/25/02 3:01PM
Subject: FW: FY 2002 Energy Management Reporting Guidance

Ken, Alison,

My apologies for this oversight. Please don't hesitate to call me if I can be of any assistance in helping you meet your reporting requirements.

Chris Tremper
McNeil Technologies, Inc.
703-921-1627

> -----Original Message-----
> From: Tremper, Chris
> Sent: Monday, September 09, 2002 11:33 AM
> To: 'Bernie.Denno@noaa.gov'; 'bette.hoffman@ssa.gov';
> 'bill.lawrence@usdoj.gov'; 'Bruce.harding@osd.mil';
> 'Carmen.Anderson@ngb.army.mil'; 'carolyn.pabon@usda.gov';
> 'Clark-Patricia-C@dol.gov'; 'Cynthia_Vallina@omb.eop.gov';
> 'debra_sonderman@os.doi.gov'; 'dick.roth@ssa.gov'; 'doris.ellis@usda.gov';
> 'doris.kwan@nro.mil'; 'dukesc@ors.od.nih.gov'; 'george.kuehn@ost.dot.gov';
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> 'kdyson@cftc.gov'; 'mcammer@cpsc.gov'; 'george.betters@eeoc.gov';
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> 'paul.king@ee.doe.gov'; 'randy.jones@ee.doe.gov';
> 'sharon.gill@ee.doe.gov'; Degroat, Kevin; Diaw, Amy
> Subject: FY 2002 Energy Management Reporting Guidance
>
> This e-mail sent on behalf of Beth Shearer, Director, DOE Federal Energy
> Management Program
>
> Enclosed with this e-mail are the electronic files which comprise the
> Reporting Guidance (and attachments) for the FY 2002 Annual Report on
> Federal Government Energy Management and Conservation Programs. The
> Guidance is attached as a WordPerfect and as a Microsoft Word file.
>
> Also attached is a Microsoft Excel file containing the FY 2002 Annual
> Energy Management Data Report. This worksheet includes formulas that will
> calculate site and source Btu, Btu/gross square foot, unit costs for each
> of the fuels, and national average carbon emissions.
>
> Lastly, the Office of Management and Budget's FY 2002 Energy Scorecard is
> also attached as a Rich Text File (RTF) document. This document relys on
> summary data from the Annual Energy Management Data Report for much of its
> inputs.
>
> These files will also be available for downloading from the Internet
> within the next week at the following address:
>
> www.eren.doe.gov/femp/aboutfemp/report_guid.html
>
> Agencies should also keep in mind that data submitted to DOE as "final"
> for the January 1, 2003 deadline will be treated by DOE as "preliminary"
> until the agencies have had an opportunity to review their data as
> presented in the draft Annual Report. As such, DOE will not release this
> data in any form prior to agency review.
>
> The point of contact for questions regarding this Guidance are:
>
> Rick Klimkos
> DOE FEMP, 202-586-8287
> Rick.Klimkos@ee.doe.gov
>
> Thank you for your cooperation and diligence in promoting energy
> efficiency. With your help, I am confident that we can achieve the
> President's energy efficiency goals and save taxpayer dollars.
>
> Beth Shearer
> Director
> Federal Energy Management Program
> Office of Energy Efficiency and Renewable Energy
> U.S. Department of Energy
> <<Guide02.wpd>> <<Guide02.doc>> <<DataReport02.xls>>
> <<Scorecard02.rtf>>
>
>
>

CC: "'Rick.Klimkos@ee.doe.gov'" <Rick.Klimkos@ee.doe.gov>

United States Government **Department of Energy**

memorandum

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

SUBJECT: Reporting Guidance for FY 2002 Annual Report on Federal Government Energy Management and Conservation Programs

TO: Federal Agency Energy Coordinators

This purpose of this memo is to communicate Federal agencies' requirements and due dates for annual reporting on energy management activities mandated by the National Energy Conservation Policy Act (NECPA), Energy Policy Act of 1992 (EPACT), and Executive Order 13123 *Greening the Government Through Efficient Energy Management.* The Department of Energy's (DOE) Federal Energy Management Program (FEMP) has prepared the FY 2002 reporting guidance to address all of the requirements while minimizing the reporting burden placed on agencies.

Information and data collected from the agencies will be used to develop DOE's FY 2002 *Annual Report to Congress on Federal Government Energy Management Programs* and the Office of Management and Budget's (OMB's) summary report of agency energy scorecards to the President. These reports describe energy management activities in Federal facilities and operations and progress in implementing the requirements of NECPA, EPACT, and Executive Order 13123.

For FY 2002, OMB has eliminated much of the energy data requested in previous years as part of its OMB Circular A-11, Exhibit 55 reporting requirement for agency budget offices. The Exhibit 55 data request is therefore no longer combined with this guidance for reporting energy consumption, costs, and related data to DOE. As a result, agencies will no longer be required to submit preliminary FY 2002 energy data in September as they had in recent years. Also, DOE is no longer requesting agencies to report the projected energy consumption and cost data for the two out years.

OMB Circular A-11, Exhibit 55 now requires only reporting on the funding that agencies request to implement energy efficiency measures. However, in addition to reporting on funding requested to implement Executive Order 13123, the scope of Exhibit 55 has been expanded to include reporting on funding requested to carry out Executive Order 13149 on Federal Fleet and Transportation Efficiency. Agency budget offices are to submit this material to OMB by September 9, 2002. Exhibit 55 and instructions for completing it are available in PDF format from OMB's website: www.whitehouse.gov/omb/circulars/a11/2002/part2.pdf. An Excel version of Exhibit 55 has been posted on FEMP's website: www.eren.doe.gov/femp/aboutfemp/report_guid.html.

As directed by Executive Order 13123, the following items are required to be submitted to DOE by January 1, 2003:

(1) FY 2002 Agency Annual Report on Energy Management (satisfying agency requirements for NECPA/EPACT Annual Report to Congress and E.O. 13123 Annual Report to the President). This includes the Annual Energy Management Data Report with *final* energy consumption and cost data for 2002 and required narrative.

(2) FY 2002 Federal Agency Energy Scorecard (DOE will forward Agency Scorecards directly to the Deputy Director of Management at OMB as required under Executive Order 13123).

(3) FY 2003 Agency Energy Management Implementation Plan.

The Reporting Guidance for the FY 2002 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. This guidance references more detailed guidelines and documents that are not included, but are available on FEMP's web site at: www.eren.doe.gov/femp/resources/guidances.html

A blank Annual Energy Management Data Report and instructions for completing the form comprise Attachment 2 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 www.eren.doe.gov/femp/aboutfemp/report_guid.html .

The blank FY 2002 Federal Agency Energy Scorecard is Attachment 3 of this reporting guidance. OMB will use the FY 2002 Energy Scorecard to evaluate agencies' progress toward meeting the goals of Executive Order 13123. The information required on the Scorecard is summary level data that agencies will have already compiled for their other reports.

Attachment 4 to this memo contains guidance for agencies to use in developing their FY 2003 Annual Energy Implementation Plan, required by the Executive Order 13123. The FY 2003 Implementation Plan should be prepared as a stand-alone document and submitted with the Annual Report by January 1, 2003.

A unit conversion chart comprises Attachment 5 to this memo. This should be useful reference for agencies when preparing their annual reports.

The requested information should be sent to:

Mr. Rick Klimkos
Federal Energy Management Program, EE-2L
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585-0121
Rick.Klimkos@ee.doe.gov

If you have any questions, please contact Rick Klimkos at (202) 586-8287. Thank you for your cooperation and diligence in promoting energy efficiency. With your help, I am confident that we can achieve the President's energy efficiency goals and save taxpayer dollars.

Beth Shearer

Beth Shearer
Director
Federal Energy Management Program
Office of Energy Efficiency and Renewable Energy

Attachments:

Attachment 1	Reporting Guidance for FY 2002 Federal Agency Annual Report on Energy Management
Attachment 2	Annual Energy Management Data Report
Attachment 3	Federal Agency Energy Scorecard for FY 2002
Attachment 4	Guidance for Preparing the Federal Agency Energy Management Implementation Plan for FY 2003
Attachment 5	Reporting Units and Conversion Factors for Federal Energy Management Reporting

ATTACHMENT 1

Reporting Guidance for FY 2002 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 13123.

A. **Energy Management Infrastructure**

1. **Senior Agency Official.** Identify the agency's senior energy official and describe the official's role and responsibilities.

2. **Agency Energy Team.** Identify the members of the team and describe the team's responsibilities.

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 13123.

2. **Performance Evaluations.** Describe agency efforts to include successful implementation of provisions of Executive Order 13123 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.

3. **Training and Education.** Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. (Note: The number of employees trained will be reported on the agency's Data Report and Energy Scorecard. Expenditures on training will also be reported on the Data Report). Describe agency outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient products for Federal purchase card users.

4. **Showcase Facilities.** Highlight exemplary new or existing facilities that the agency has designated Showcase Facilities in FY 2002. Describe why the facilities are considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).

II. **Energy Efficiency Performance.** This section will highlight data calculated for reporting on the Data Report and the Energy Scorecard. The purpose of the section is to provide narrative information in support of these data.

A. Energy Reduction Performance

Site-Delivered vs. Source Energy—The factors used for converting the reporting units to Btu have a significant impact on how performance toward the energy efficiency goals and other goals of E.O. 13123 are measured. "Energy use" is defined as the energy that is used at a building or facility and measured in terms of energy delivered to the building or facility. Recognizing this, OMB and DOE will use Btu based on the site conversion factors for both electricity and steam as the primary measure of performance. However, because carbon emissions are generally proportional to source energy use, reductions in source Btu will also be considered more seriously than in the past.

The conversion factor for electricity of 3,412 Btu per kilowatt hour, the rate of consumption by the end-user on site, will be used for measuring performance. The difference between the site conversion rate and the estimated source conversion rate of 10,346 Btu per kilowatt hour is attributable to transmission and conversion losses associated with electric generation. The site conversion factor for purchased steam is 1,000 Btu per pound. Generation inefficiencies and distribution losses are included in the source conversion factor of 1,390 Btu per pound. Separate tables showing agency consumption using the source conversion factors for electricity and steam, along with estimated carbon emissions, will be included in DOE's Annual Report to Congress.

1. **Standard Buildings.** Report energy use for standard buildings in units of Btu-per-gross-square-foot (Btu/GSF) for FY 1985 (the base year) and FY 2002. Report the percent change from FY 1985 and from the FY 2001. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

Leased Spaced—Each agency that controls its Federally-owned building space or directly pays the utilities in its leased space will report to DOE the agency's aggregate energy consumption for various fuel types (see Data Report instructions). Reporting on leased buildings may pose some difficulty depending on the nature of the lease (partially serviced, fully serviced). In cases where an agency is responsible for paying utility bills for space that is leased, the agency is expected to report energy consumption for the leased space to DOE. If an agency is leasing from the General Services Administration, GSA is responsible for reporting.

Delegated Space—Agencies that have been delegated responsibility by GSA for operation and maintenance of buildings they occupy are required to report, to DOE, energy consumption for these buildings during the years the buildings are under their control. An agency should *not* adjust the FY 1985 baseline to reflect the addition of buildings delegated by GSA if those buildings were not under the agency's control during the base year period. The FY 1985 consumption and square footage of any building delegated after FY 1985 is included in GSA's FY 1985 baseline. To also include this square footage and consumption in the agency's baseline would result in double reporting. The impact of delegation activity on the Btu/GSF rates of most agencies should be minimal. In cases where building delegations account for a large increase in the percentage of an agency's building inventory and its Btu/GSF is greatly impacted, this situation will be documented in the text of DOE's Annual Report to Congress.

Lack of Base Year Data—Comparisons to a FY 1985 base year will not be possible for agencies that had no buildings under their control during the base year. Where comparisons to the FY 1985 base year are not possible, that specific item in the data table will be footnoted as "not applicable" in the report. In order to maintain accurate data and comply with the legislation, FEMP will work with relevant agencies to

determine alternative approaches that would minimize double counting, but provide comparative information on Btu/GSF consumption.

2. **Industrial and Laboratory Facilities.** Identify the facility inventory subject to this goal, referencing Section IV, Part D that lists the buildings included. Describe the performance measure(s) used (Btu/square foot, Btu/production unit, etc.). (Refer to FEMP web site for the guidance document *Section 203 Performance Goals for Industrial, Laboratory, Research, and Other Energy-Intensive Facilities* www.eren.doe.gov/femp/resources/indust.html).

   Report energy use (in the designated performance measure) for industrial and laboratory facilities for FY 1990 (the base year) and FY 2002. Report the percent change from FY 1990 and from the FY 2002. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

3. **Exempt Facilities.** Refer to Section IV E—a list of exempt facilities and an explanation of why they were exempted. (Refer to DOE's *Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions* www.eren.doe.gov/femp/resources/criteria.html).

Although buildings found exempt according to the criteria are not subject to the requirements of Sections 202 and 203 of Executive Order 13123, DOE will continue to collect energy consumption data for these buildings under the new reporting category of "Exempt Buildings." This ensures that accurate reporting on overall Federal energy consumption is maintained.

4. **Tactical Vehicle and Equipment Fuel Use.** Refer to the Data Report to identify the fuel use for tactical vehicles and other equipment. Discuss trends in the use of each type of fuel and methods employed to reduce fuel use.

Vehicle Fleet Consumption—To relieve reporting burdens on Federal agencies, GSA's Agency Report of Motor Vehicle Data (Form SF-82) was revised for collecting acquisition, fuel consumption, and fuel cost data for motor vehicles directly from vehicle fleet managers. The use of the SF-82 eliminated the need to report fuel consumption data for non-tactical motor vehicles to DOE. GSA now collects this data, including alternative fuel consumption data reported under Sections 303 and 308 of EPACT, and forwards this information to DOE for inclusion in the Annual Report to Congress. For more information on the SF-82, please contact Ms. Lois Mandell of GSA's Federal Vehicle Policy Division at (202) 501-2824.

B. **Renewable Energy.** Discuss agency's policy and efforts to encourage purchase of electricity generated from renewable energy sources. (Note: The quantitative information related to this section [see below] will be reported on the agency's Data Report and Energy Scorecard. On the Energy Scorecard, self-generated renewable energy use and purchased renewable energy use will be aggregated into a single value).

1. **Self-generated renewable energy.** Identify/estimate energy use from electricity self-generated from renewable sources (photovoltaics, wind turbines) and renewable energy thermal projects (solar thermal, biomass, geothermal). Also report energy generated on Federal lands or by projects facilitated by your agency, but which may be sold to other parties.

2. **Purchased renewable energy.** Identify the renewable (i.e., wind, solar, geothermal, biomass) energy component of power purchases under competitive contract in megawatt-hours. (Note: Guidelines for counting renewable energy projects and purchases of electricity from renewable energy sources toward agency progress in reaching their goals are available on the FEMP web site www.eren.doe.gov/femp/resources/countguide.html. Information on the Federal renewable energy goal is also available on the FEMP Web site at www.eren.doe.gov/femp/resources/renewableguide.html).

C. **Petroleum.** Identify petroleum-based fuels (fuel oil, LPG/propane) used in buildings in FY 1985 and in FY 2002 and the percentage change from FY 1985. (Note: The FY 2002 data will be reported on the Data Report and the Energy Scorecard).

D. **Water Conservation.** Identify/estimate water consumption and cost by the agency in FY 2002 and outline any agency-specific issues related to collection of water consumption data. (Note: This information will be reported on the Data Report and the Energy Scorecard). Refer to DOE's *Guidance to Federal Agencies for Determining Baseline Water Usage* and *Guidance to Establish Water Efficiency Improvement Goal for Federal Agencies* on the FEMP web site http://www.eren.doe.gov/femp/resources/water.html and http://www.eren.doe.gov/femp/resources/waterguide.html. Also in this section, highlight activities undertaken to improve water efficiency. Discuss progress in developing Water Management Plans and implementing Best Management Practices for efficient use of water (See the guidance document, *Water Efficiency Improvement Goal for Federal Agencies* on FEMP's Web site www.eren doe.gov/femp/resources/waterguide.html.)

III. **Implementation Strategies.** The purpose of this section is to identify and describe the use of strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will have employed every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective.

In each of the following subsections, present highlights for each of the strategies that were used. If certain strategies were not used, explain why not. Please provide narrative where strategies that were identified as focal points in the previous year's Implementation Plan were successful, where challenges existed in implementing strategies, and how challenges were overcome.

A. **Life-Cycle Cost Analysis.** Outline procedures in place to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Highlight examples where life-cycle cost analysis was used in capital budgeting decisions concerning energy efficiency. Report on the successes and challenges of implementing life-cycle cost effective projects. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

B. **Facility Energy Audits.** Describe the number/percentage of agency facilities audited for energy and water efficiency during FY 2002, and the total percentage of facilities audited to date. (In accordance with EPACT and Executive Order 13123, approximately 10% of facilities should be audited each year).

C. **Financing Mechanisms.** Provide narrative information related to the use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs). (Note: Quantitative information related to ESPCs and UESCs will be reported on the Data Report and the Energy Scorecard). Report funding requested and received for FY 2002 and funding requested for FY 2003 for the performance of energy surveys/audits and for applied energy conservation measures (Note: This information will be reported on the Data Report).

D. **ENERGY STAR® and Other Energy-Efficient Products.** Describe steps taken to promote the purchase of ENERGY STAR® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria have been incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria have been incorporated into product specification language. (See the ENERGY STAR® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eren.doe.gov/femp/procurement/begin.html], and EPA [www.energystar.gov/products/])

E. **ENERGY STAR® Buildings.** Report the number and percentage of buildings that have met the ENERGY STAR® Building criteria and have officially been designated ENERGY STAR® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR® Buildings designation. See www.energystar.gov).

F. **Sustainable Building Design.** Report whether sustainable building design principles have been incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

G. **Energy Efficiency in Lease Provisions.** Describe how energy and water efficiency are considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR® Buildings, etc.)

H. **Industrial Facility Efficiency Improvements.** Highlight activities undertaken to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

I. **Highly Efficient Systems.** Describe new construction and/or retrofit projects for which combined cooling, heating, and power systems were installed. Report whether local natural resources were surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

J. **Off-Grid Generation.** Describe the installation of non-renewable distributed generation technologies such as fuel cells, microturbines, generators (dedicated and peak shaving), and other power generation alternatives. Distributed generation from renewable sources (solar, wind, etc.) should have already been reported in Section II, part B. Some

distributed generation projects could be grid connected and should be reported if used by the agency to reduce demand usage from the power grid.

K. **Electrical Load Reduction Measures.** Describe agency activities undertaken to reduce electricity load during power emergencies. These activities are required under the President's Memorandum of May 3, 2001 on Energy Conservation at Federal Facilities. (See www.eren.doe.gov/femp/resources/presidential_direct.html for information on electrical load reduction measures.)

IV **Data Tables and Inventories.** Include the items listed below in the order given.

A. **FY 2002 Annual Energy Management Data Report.** A blank Data Report form and instructions for completing the form is included as Attachment 2 of this Guidance. Also include a Data Report for any revisions to past years' energy data along with an explanation for the revision.

B. **Energy Scorecard for FY 2002.** A blank Scorecard is included as Attachment 3 of this Guidance.

C. **Goals of Executive Order 13123 and NECPA/EPACT** (optional). This table was prepared by OMB/DOE and is attached to this guidance document. Agencies may wish to include this table in their Annual Reports for reference.

D. **Industrial and Laboratory Facilities Inventory.** This should include the following information: building name and building location (city and state).

E. **Exempt Facilities Inventory.** This should include the following information: building name, building location (city and state), and justification for exempt status.

V. **Attachment.** Attach a FY 2003 Implementation Plan to this FY 2002 Annual Report. Consult Attachment 4, *Guidance for Preparing the Federal Agency Implementation Plan for FY 2003*.

Goals of Executive Order 13123 and NECPA/EPACT

Executive Order 13123

Category	Goal	Comments
Greenhouse Gas Emissions	30% reduction by 2010	Base year is 1990. DOE will calculate agencies' progress toward this goal and report it on agencies' annual energy scorecards
Energy Efficiency		
Standard Buildings	• 30% improvement by 2005 • 35% improvement by 2010	Base year is 1985
Industrial and Laboratory Facilities	• 20% improvement by 2005 • 25% improvement by 2010	Base year is 1990
Exempt Facilities	N/A	Despite lack of quantitative goal, agencies should implement strategies to improve energy efficiency at these facilities.
Renewable Energy	• Implement renewable energy projects • Purchase electricity from renewable energy sources • Install 2,000 solar energy systems at Federal facilities by 2000 • Install 20,000 solar energy systems at Federal facilities by 2010	Installation of Federal solar energy systems will help support the Million Solar Roofs initiative
Petroleum	Reduce petroleum use	Switches to alternative energy sources should be life-cycle cost effective
Source Energy	Reduce use of source energy	Accomplish by undertaking projects that are life-cycle cost effective
Water Conservation	Reduce water consumption*	Accomplish via life-cycle cost effective measures, energy-savings performance contracts, or other financing mechanism

NECPA/EPACT

Energy Efficiency	20% improvement by 2000	Base year is 1985
Financing	Undertake all energy efficiency improvement projects that have a simple payback period of 10 years or less by 2005	E.O. 13123 expands this goal by mandating that any energy efficiency project that is life-cycle cost effective be undertaken
Audits	Conduct audits for energy efficiency on 10% of facilities annually	E.O. 13123 includes language supporting this goal

* FEMP has established water efficiency improvement goals as directed by the Executive Order. Agencies must implement Water Management Plans and Best Management Practices according to the following schedule:

05% of facilities by 2002
15% of facilities by 2004
30% of facilities by 2006
50% of facilities by 2008
80% of facilities by 2010

For more detail, see the FEMP guidance document Water Efficiency Improvement Goal for Federal Agencies

Attachment 2

FY 2002 Energy Management Data Report and Accompanying Instructions

(See separate file: DataReport02.xls for 5-page Data Report)

INSTRUCTIONS FOR PREPARING THE FY 2002 ANNUAL ENERGY MANAGEMENT DATA REPORT

What is the purpose of this information?
Executive Order 13123 requires agencies to track and reduce their energy use in buildings and facilities. The Energy Policy Act of 1992 (EPAct) required agencies to reduce their energy use per square foot of office space by 20 percent, relative to use in 1985, by the year 2000. E.O. 13123 extends those goals for office buildings to a 30 percent reduction by 2005 and 35 percent by 2010, relative to 1985. E.O. 13123 also requires improvements in industrial and laboratory facilities: 20 percent (relative to 1990) by 2005 and 25 percent by 2010. Part 3 of E.O. 13123 requires agencies to include budgetary information on energy use and efficiency in their budgets and sets out requirements for an annual report to the President on progress toward the energy efficiency goals.

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 the President and 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 12 tables shown in Data Report. Part 1 consists of six tables concerning energy 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 the detailed FEMP reporting guidance, which includes conversion tables.

(a) Tables 1-1, 1-2, and 1-3
For each category of buildings and facilities (standard, industrial/lab/other energy intensive, and exempt), report how much of each of the following types of energy your agency used and how much you spent for that type of energy. If you know only one of these numbers, report that and the Department of Energy will estimate the other value based on the average national cost of each form 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).

Energy type	*Reporting unit*
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)

If you were able to enter cost data for all types of energy you used, then total the annual costs and enter that number, in thousands of dollars, in the space provided.

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 the nearest tenth of an integer.

(14) *Standard building or facility.* This category includes office and administrative buildings and any other building that does not specifically fit the criteria for an "industrial, laboratory, research, or other energy-intensive facility " or for an exempt facility. Refer to the DOE document, Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions for additional information.

(15) *Industrial, laboratory, research, or other energy-intensive facilities.* This category includes data on buildings and facilities that by their nature have much higher energy consumption than standard office buildings. You can choose what measure of output or activity to use as a basis for computing energy efficiency. Your agency has the option of meeting the E.O.13123 energy reduction goals in these facilities in terms of energy use per square foot like standard buildings, or in terms of some other performance ratio, such as energy use per ton of material handled, per flight prepared, or per some other measure of productivity. Refer to section 203, Performance Goals for Industrial, Laboratory, Research, and Other Energy-Intensive Facilities, (www eren.doe.gov/femp/resources/indust html).

(16) *Facilities exempt from meeting the E.O.13123 goals.* You should refer to the DOE document, Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions (www.eren.doe gov/femp/resources/criteria.html) to decide which facilities are exempt from the E.O.13123 energy-efficiency improvement goals. Although these exempt buildings are not subject to the requirements of Sections 202 and 203 of E.O.13123, you should still report energy consumption and cost data for them under the reporting category of "Exempt buildings," using the same method as for the standard buildings/facilities category.

(b) Table 1-4. Tactical vehicles and other equipment.
Table 1-4 includes information on the fuel use of non-passenger vehicles and non-vehicle engines like mobile generators. 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.) Also report the actual or estimated total cost to your agency of each type of fuel for each of the reporting years.

(c) Table 1-5 . Water consumption, cost, and efficiency measures.
If your water bills have different units of measurement from the ones required here, you must convert the

data. For conversion units, refer to the detailed FEMP reporting guidance which includes conversion tables.

(d) Table 1-6. Renewable ("green") energy purchases.
With the advent of retail competition, Federal agencies have opportunities to purchase electricity in the competitive market from a retail supplier other than their local electric utility. In addition, Federal agencies have opportunities to purchase renewable energy from utilities as part of "green power" pricing programs. Your agency will get credit toward meeting the goals of E.O.13123 by distinguishing "green energy" contracts from other power contracts, and reporting the portion of power attributable to renewable sources. Agencies should also indicate whether green energy purchase credit for energy efficiency goals should be applied to the standard buildings goal or the industrial/other energy intensive facilities goal.

(17) *Purchases of renewable electricity.* Report the amount of renewable electricity you purchased from suppliers whose energy products are partially or completely derived from renewable sources. Your utility suppliers can tell you what percentage of the power is derived from renewables. Apply that percentage to both the gross usage and cost data to complete the table. For example, if you purchased 5,000 MWH under a "green energy " contract where 10% of the power is from renewables, you would report 50 MWH and 10% of the total cost.

(18) *Purchased biomass or landfill gas (renewable energy sources).* For competitive purchases of natural gas from renewable energy sources, provide the annual usage (in millions of Btu) and the cost. Generally this would be purchased separately from other gas, so the renewable fraction is 100 percent. But if you purchased this gas in a mix with conventional natural gas, use the percentage mix to calculate and report the amount that is actually "renewable."

(19) *Purchased thermal energy from renewable energy sources.* For purchases of any form of thermal energy from renewable energy sources, provide the annual usage (in million BTU) and the cost.

(e) Table 1-7. Self-generated renewable energy installed after 1990
In order to get credit toward the renewable energy goal, agencies must provide information on self-generated renewable energy installed after 1990. Because this energy is not reported in Tables 1-1, 1-2, or 1-3, it must be reported here to be counted toward the renewable energy goal. Agencies can count generation from renewable energy projects that use Federal land or resources if the agency played a role in facilitating a project's development. Therefore, agencies should report the total energy generated by their projects (this is the amount that is credited toward the Federal goal). In addition, the agency should report the amount of this energy actually used by the agency, if excess generation is being sold to other entities.

(f) 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 2-5.

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.

(g) 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 "MMBTU" column, enter the total of the average annual energy savings anticipated from all ESPC projects awarded during the year, in millions of site 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, Exhibit 55 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 <u>not</u> 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.

(h) 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. These contracts can either be negotiated directly by the site, or placed through an existing "area-wide agreement" the utility has with the General Services Administration to provide their commodity to the site.

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 "MMBTU" 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 <u>not</u> 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.

(i) Table 2-5. 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 3

Agency Energy Scorecard for FY 2002

**(See separate file: Scorecard02.rtf
for 2-page Scorecard)**

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Attachment 4

Guidance for Preparing the Federal Agency Energy Management Implementation Plan for FY 2003

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Guidance for Preparing the Agency Energy Management Implementation Plan for FY 2003

The Implementation Plan should be formatted as described below. The format generally follows the outline for the Annual Report. Although the Implementation Plan will be submitted as an attachment to the Annual Report, the Plan should be considered a stand-alone document. Therefore, please do not refer to the Annual Report for Section I, Part A, or for any other part of the Plan that you feel may be redundant with the Annual Report. This Plan should be brief and should describe only activities planned for the next fiscal year.

I. **Management and Administration.** This section will describe (1) the agency's establishment of an energy management infrastructure and (2) the agency's plans to use management tools in implementing Executive Order 13123.

A. **Energy Management Infrastructure**

1. **Senior Agency Official.** Identify the agency's senior energy official and describe the official's role and responsibilities.

2. **Agency Energy Team.** Identify the members of the team and describe the team's responsibilities.

B. **Management Tools**

1. **Awards (Employee Incentive Programs).** Describe the agency's plans to use employee incentive programs to reward exceptional performance in implementing Executive Order 13123.

2. **Performance Evaluations.** Describe agency plans to include successful implementation of provisions of Executive Order 13123 in the position descriptions and performance evaluations of members of the agency energy team and facility/energy mangers.

3. **Training and Education.** Describe plans to ensure that all appropriate personnel receive training for energy management requirements. Describe plans to develop and implement agency outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient products for Federal purchase card users.

4. **Showcase Facilities.** Describe plans to construct or renovate exemplary facilities that the agency plans to designate as Showcase Facilities. Discuss why the facilities will be considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).

II. **Implementation Strategies.** The purpose of this section is to describe plans to use strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will employ every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective. If certain strategies will not be used, please explain why not.

A. **Life-Cycle Cost Analysis.** Outline plans to institute procedures to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Report on plans to implement the 10-Year Simple Payback Rule. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

B. **Facility Energy Audits.** Describe the number/percentage of agency facilities that will be audited for energy and water efficiency during the next fiscal year. (Approximately 10% of facilities should be audited each year). Describe the prioritization criteria for audits (e.g., oldest facilities, most energy intensive facilities, etc.)

C. **Financing Mechanisms.** Provide narrative information related to the planned use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs).

D. **ENERGY STAR® and Other Energy-Efficient Products.** Describe steps to be taken to promote the purchase of ENERGY STAR® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria will be incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria will be incorporated into product specification language. (See the ENERGY STAR® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eren.doe.gov/femp/procurement/begin.html], and EPA [www.epa.gov/uiseerko/index.html])

E. **ENERGY STAR® Buildings.** Report the number and percentage of buildings that, in the next fiscal year, are expected to meet the ENERGY STAR® Building criteria and to be officially designated ENERGY STAR® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR® Buildings designation. See www.epa.gov/buildings/label).

F. **Sustainable Building Design.** Report whether sustainable building design principles will be incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

G. **Energy Efficiency in Lease Provisions.** Describe how energy and water efficiency will be considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR® Buildings, etc.)

H. **Industrial Facility Efficiency Improvements.** Highlight planned activities to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

I. **Highly Efficient Systems.** Describe plans for new construction and/or retrofit projects for which combined cooling, heating, and power systems will be installed. Report whether local natural resources will be surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

J. **Off-Grid Generation.** Describe plans for installing new solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives.

K. **Renewable Energy Purchases.** Describe agency plans to encourage the purchase of electricity and thermal energy generated from renewable sources.

L. **Electrical Load Reduction Measures.** Describe agency plans for implementing electrical load reduction measures to be taken during power emergencies to cut electricity consumption in buildings and facilities. (See www.eren.doe.gov/femp/resources/presidential_direct.html for information on electrical load reduction measures.)

M. **Water Conservation.** Highlight activities to be undertaken to improve water efficiency. Discuss plans to develop and implement Water Management Plans and Best Management Practices for efficient use of water (Note: See the guidance document entitled *Water Efficiency Improvement Goal for Federal Agencies* on FEMP's Web site [www.eren doe.gov/femp/resources/guidances.html]).

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Attachment 5

Reporting Units and Conversion Factors for Federal Energy Management Reporting

REPORTING UNITS AND CONVERSION FACTORS FOR FEDERAL ENERGY MANAGEMENT REPORTING

Standard Buildings/Facilities
Industrial, Laboratory, and Other Energy-Intensive Facilities
Exempt Facilities

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
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
LPG/Propane	1,000 Gallons	95,500,000	100,752,500,000	100.7525
Coal	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
Other	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0

Vehicles/Equipment

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
Auto Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
Diesel	1,000 Gallons	138,700,000	146,328,500,000	146.3285
LPG/Propane	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
Jet Fuel	1,000 Gallons	130,000,000	137,150,000,000	137.150
Navy Special	1,000 Gallons	138,700,000	146,328,500,000	146.3285
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

FY 2002 Federal Agency Energy Scorecard

Department/Agency Name	Contact Name and Phone
Name of Senior Energy Official	**Signature of Senior Energy Official**

Did your agency . . .	Yes	No	Anticipated Submittal Date
Submit its FY 2002 energy report to OMB and DOE by January 1, 2003 (Sec. 303)?			
Submit a FY 2003 Implementation Plan by January 1, 2003 (Sec. 302)?			
Did your agency . . .	**Yes**	**No**	**Comments**
Implement or continue to use new renewable energy projects at Federal installations or facilitate the siting of renewable generation on Federal land in FY 2002 (Sec 204)?[1] (Refer to Table 1-7 on the Energy Management Data Report)			If yes, how many projects and how much energy generated? (Specify unit: MWH or MMBtu) Solar ___ _____ _____ Wind ___ _____ _____ Thermal[2] ___ _____ _____ Biomass ___ _____ _____ Other RE ___ _____ _____
Purchase energy generated from new renewable energy sources in FY 2002 (Sec. 204)?[1]			If yes, how much: _____ MWH or _____ MMBtu
Invest direct FY 2002 appropriations in projects contributing to the goals of the Order (Sec. 301)?			If yes, how much: $_____
Specifically request funding necessary to achieve the goals of the Order in its FY 2004 budget request to OMB (Sec. 301)?			If yes, how much: $_____
Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)?			What percentage of facility space was audited during the FY?___% How much facility space has been audited since 1992? _____%
Issue to private-sector energy service companies (ESCOs) any energy savings performance contract (ESPC) task orders (Sec. 403(a))? (Refer to Table 2-2 on the Energy Management Data Report)			How many? _____ Annual savings (MMBtu):_____ Total investment value[3]: $_____ Cumulative guaranteed cost savings: $_____ Contracts award value: $_____
Issue any utility energy services contract (UESC) task orders (Sec. 403(a))? (Refer to Table 2-3 on the Energy Management Data Report)			How many? _____ Annual savings (MMBtu):_____ Total investment value[3]: $_____ Cumulative cost savings: $_____ Contracts award value: $_____

1 "New" renewable energy means sources developed after 1990.

2 Examples are geothermal, solar thermal, and geothermal heat pumps. Thermal energy from geothermal heat pumps should be determined as follows: Thermal energy = Total geothermal heat transferred – electrical energy used.

3 Investment value includes design, materials, labor, overhead, and profit but excludes contractor's financing costs and government's administration costs. Using investment value allows comparison with other traditional execution methods such as appropriated and working capital funded projects.

Did your agency ...	Yes	No	Comments
Incorporate energy efficiency requirements into relevant acquisitions (Sec. 403(b)(3))?			
Adopt and apply the sustainable design principles (e.g., Whole Building Design Guide, Leadership in Energy and Environmental Design) to the siting, design, and construction of new facilities or major (budget line item) renovations begun in FY 2002(Sec. 403(d))?			Number of new building design/construction projects in FY 2002:_____ Number of these projects that incorporated sustainable design principles:_____
Provide training to appropriate personnel[4] on energy management (Sec. 406(d))?			Number of appropriate personnel trained._____ Total number of appropriate personnel:_____
Implement any additional management tools (Sec. 406)?			Check all that apply: Awards:_____ Performance Evaluations:_____ Showcase Facilities:_____ Number of Showcase:_____ Facilities designated in fiscal year:_____
Establish Water Management Plans and implement at least 4 Best Management Practices in at least 5% of agency facilities?			Number of facilities with Water Management Plans:_____

NOTE: Provide additional information if a "no" reply is used for any of the questions above.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2001)	Current Year (2002)	% Change (Current vs. Base)
Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	Btu/Ft^2	Btu/Ft^2	Btu/Ft^2	%
Source Energy Use (Sec. 206). 1985 Base Year	BBtu	BBtu	BBtu	%
Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	Btu/unit	Btu/unit	Btu/unit	%
Water Conservation Goal (Sec. 207). 2000 Base Year	MGal	N/A	MGal	%
Renewable Energy (Sec. 204). Energy used from self-generation and RE power purchases	N/A	BBtu	BBtu	N/A

Abbreviation Key: Btu/Ft^2 = British thermal units per gross square foot
Btu/unit = British thermal units per unit of productivity (or gross square foot when such a unit is inappropriate or unavailable)
MGal = Million gallons
MMBtu = Million British Thermal Units
BBtu = Billion British Thermal Units
RE = Renewable energy
N/A = Not applicable

4 Appropriate personnel include the agency energy management team as well as Federal employees and on-site contractors who are energy or facility managers, operations and maintenance workers, design personnel, procurement and budget staff, and legal counsel

United States Government **Department of Energy**

memorandum

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

SUBJECT: Reporting Guidance for FY 2002 Annual Report on Federal Government Energy Management and Conservation Programs

TO: Federal Agency Energy Coordinators

This purpose of this memo is to communicate Federal agencies' requirements and due dates for annual reporting on energy management activities mandated by the National Energy Conservation Policy Act (NECPA), Energy Policy Act of 1992 (EPACT), and Executive Order 13123 *Greening the Government Through Efficient Energy Management.* The Department of Energy's (DOE) Federal Energy Management Program (FEMP) has prepared the FY 2002 reporting guidance to address all of the requirements while minimizing the reporting burden placed on agencies.

Information and data collected from the agencies will be used to develop DOE's FY 2002 *Annual Report to Congress on Federal Government Energy Management Programs* and the Office of Management and Budget's (OMB's) summary report of agency energy scorecards to the President. These reports describe energy management activities in Federal facilities and operations and progress in implementing the requirements of NECPA, EPACT, and Executive Order 13123.

For FY 2002, OMB has eliminated much of the energy data requested in previous years as part of its OMB Circular A-11, Exhibit 55 reporting requirement for agency budget offices. The Exhibit 55 data request is therefore no longer combined with this guidance for reporting energy consumption, costs, and related data to DOE. As a result, agencies will no longer be required to submit preliminary FY 2002 energy data in September as they had in recent years. Also, DOE is no longer requesting agencies to report the projected energy consumption and cost data for the two out years.

OMB Circular A-11, Exhibit 55 now requires only reporting on the funding that agencies request to implement energy efficiency measures. However, in addition to reporting on funding requested to implement Executive Order 13123, the scope of Exhibit 55 has been expanded to include reporting on funding requested to carry out Executive Order 13149 on Federal Fleet and Transportation Efficiency. Agency budget offices are to submit this material to OMB by September 9, 2002. Exhibit 55 and instructions for completing it are available in PDF format from OMB's website: www.whitehouse.gov/omb/circulars/a11/2002/part2.pdf. An Excel version of Exhibit 55 has been posted on FEMP's website: www.eren.doe.gov/femp/aboutfemp/report_guid.html.

As directed by Executive Order 13123, the following items are required to be submitted to DOE by January 1, 2003:

(1) FY 2002 Agency Annual Report on Energy Management (satisfying agency requirements for NECPA/EPACT Annual Report to Congress and E.O. 13123 Annual Report to the President). This includes the Annual Energy Management Data Report with *final* energy consumption and cost data for 2002 and required narrative.

(1) FY 2002 Federal Agency Energy Scorecard (DOE will forward Agency Scorecards directly to the Deputy Director of Management at OMB as required under Executive Order 13123).

(2) FY 2003 Agency Energy Management Implementation Plan.

The Reporting Guidance for the FY 2002 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. This guidance references more detailed guidelines and documents that are not included, but are available on FEMP's web site at: www.eren.doe.gov/femp/resources/guidances.html

A blank Annual Energy Management Data Report and instructions for completing the form comprise Attachment 2 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 www.eren.doe.gov/femp/aboutfemp/report_guid.html .

The blank FY 2002 Federal Agency Energy Scorecard is Attachment 3 of this reporting guidance. OMB will use the FY 2002 Energy Scorecard to evaluate agencies' progress toward meeting the goals of Executive Order 13123. The information required on the Scorecard is summary level data that agencies will have already compiled for their other reports.

Attachment 4 to this memo contains guidance for agencies to use in developing their FY 2003 Annual Energy Implementation Plan, required by the Executive Order 13123. The FY 2003 Implementation Plan should be prepared as a stand-alone document and submitted with the Annual Report by January 1, 2003.

A unit conversion chart comprises Attachment 5 to this memo. This should be useful reference for agencies when preparing their annual reports.

The requested information should be sent to:

Mr. Rick Klimkos
Federal Energy Management Program, EE-2L
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585-0121
Rick Klimkos@ee doe gov

If you have any questions, please contact Rick Klimkos at (202) 586-8287. Thank you for your cooperation and diligence in promoting energy efficiency. With your help, I am confident that we can achieve the President's energy efficiency goals and save taxpayer dollars.

Beth Shearer

Beth Shearer
Director
Federal Energy Management Program
Office of Energy Efficiency and Renewable Energy

Attachments:

Attachment 1	Reporting Guidance for FY 2002 Federal Agency Annual Report on Energy Management
Attachment 2	Annual Energy Management Data Report
Attachment 3	Federal Agency Energy Scorecard for FY 2002
Attachment 4	Guidance for Preparing the Federal Agency Energy Management Implementation Plan for FY 2003
Attachment 5	Reporting Units and Conversion Factors for Federal Energy Management Reporting

ATTACHMENT 1

Reporting Guidance for FY 2002 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 13123.

A. Energy Management Infrastructure

1. **Senior Agency Official.** Identify the agency's senior energy official and describe the official's role and responsibilities.

2. **Agency Energy Team.** Identify the members of the team and describe the team's responsibilities.

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 13123.

2. **Performance Evaluations.** Describe agency efforts to include successful implementation of provisions of Executive Order 13123 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.

3. **Training and Education.** Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. (Note: The number of employees trained will be reported on the agency's Data Report and Energy Scorecard. Expenditures on training will also be reported on the Data Report). Describe agency outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient products for Federal purchase card users.

4. **Showcase Facilities.** Highlight exemplary new or existing facilities that the agency has designated Showcase Facilities in FY 2002. Describe why the facilities are considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).

II. **Energy Efficiency Performance.** This section will highlight data calculated for reporting on the Data Report and the Energy Scorecard. The purpose of the section is to provide narrative information in support of these data.

A. Energy Reduction Performance

Site-Delivered vs. Source Energy—The factors used for converting the reporting units to Btu have a significant impact on how performance toward the energy efficiency goals and other goals of E.O. 13123 are measured. "Energy use" is defined as the energy that is used at a building or facility and measured in terms of energy delivered to the building or facility. Recognizing this, OMB and DOE will use Btu based on the site conversion factors for both electricity and steam as the primary measure of performance. However, because carbon emissions are generally proportional to source energy use, reductions in source Btu will also be considered more seriously than in the past.
The conversion factor for electricity of 3,412 Btu per kilowatt hour, the rate of consumption by the end-user on site, will be used for measuring performance. The difference between the site conversion rate and the estimated source conversion rate of 10,346 Btu per kilowatt hour is attributable to transmission and conversion losses associated with electric generation. The site conversion factor for purchased steam is 1,000 Btu per pound. Generation inefficiencies and distribution losses are included in the source conversion factor of 1,390 Btu per pound. Separate tables showing agency consumption using the source conversion factors for electricity and steam, along with estimated carbon emissions, will be included in DOE's Annual Report to Congress.

1. **Standard Buildings.** Report energy use for standard buildings in units of Btu-per-gross-square-foot (Btu/GSF) for FY 1985 (the base year) and FY 2002. Report the percent change from FY 1985 and from the FY 2001. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

Leased Spaced—Each agency that controls its Federally-owned building space or directly pays the utilities in its leased space will report to DOE the agency's aggregate energy consumption for various fuel types (see Data Report instructions). Reporting on leased buildings may pose some difficulty depending on the nature of the lease (partially serviced, fully serviced). In cases where an agency is responsible for paying utility bills for space that is leased, the agency is expected to report energy consumption for the leased space to DOE. If an agency is leasing from the General Services Administration, GSA is responsible for reporting.
Delegated Space—Agencies that have been delegated responsibility by GSA for operation and maintenance of buildings they occupy are required to report, to DOE, energy consumption for these buildings during the years the buildings are under their control. An agency should *not* adjust the FY 1985 baseline to reflect the addition of buildings delegated by GSA if those buildings were not under the agency's control during the base year period. The FY 1985 consumption and square footage of any building delegated after FY 1985 is included in GSA's FY 1985 baseline. To also include this square footage and consumption in the agency's baseline would result in double reporting. The impact of delegation activity on the Btu/GSF rates of most agencies should be minimal. In cases where building delegations account for a large increase in the percentage of an agency's building inventory and its Btu/GSF is greatly impacted, this situation will be documented in the text of DOE's Annual Report to Congress.
Lack of Base Year Data—Comparisons to a FY 1985 base year will not be possible for agencies that had no buildings under their control during the base year. Where comparisons to the FY 1985 base year are not possible, that specific item in the data table will be footnoted as "not applicable" in the report. In order to maintain accurate data and comply with the legislation, FEMP will work with relevant agencies to determine alternative approaches that would minimize double counting, but provide comparative information on Btu/GSF consumption.

2. **Industrial and Laboratory Facilities.** Identify the facility inventory subject to this goal, referencing Section IV, Part D that lists the buildings included. Describe the performance measure(s) used (Btu/square foot, Btu/production unit, etc.). (Refer to FEMP web site for the guidance document *Section 203 Performance Goals for Industrial, Laboratory, Research, and Other Energy-Intensive Facilities* www eren.doe.gov/femp/resources/indust html).

   Report energy use (in the designated performance measure) for industrial and laboratory facilities for FY 1990 (the base year) and FY 2002. Report the percent change from FY 1990 and from the FY 2002. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

3. **Exempt Facilities.** Refer to Section IV E—a list of exempt facilities and an explanation of why they were exempted. (Refer to DOE's *Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions* www.eren doe.gov/femp/resources/criteria html).

Although buildings found exempt according to the criteria are not subject to the requirements of Sections 202 and 203 of Executive Order 13123, DOE will continue to collect energy consumption data for these buildings under the new reporting category of "Exempt Buildings." This ensures that accurate reporting on overall Federal energy consumption is maintained.

4. **Tactical Vehicle and Equipment Fuel Use.** Refer to the Data Report to identify the fuel use for tactical vehicles and other equipment. Discuss trends in the use of each type of fuel and methods employed to reduce fuel use.

Vehicle Fleet Consumption—To relieve reporting burdens on Federal agencies, GSA's Agency Report of Motor Vehicle Data (Form SF-82) was revised for collecting acquisition, fuel consumption, and fuel cost data for motor vehicles directly from vehicle fleet managers. The use of the SF-82 eliminated the need to report fuel consumption data for non-tactical motor vehicles to DOE. GSA now collects this data, including alternative fuel consumption data reported under Sections 303 and 308 of EPACT, and forwards this information to DOE for inclusion in the Annual Report to Congress. For more information on the SF-82, please contact Ms. Lois Mandell of GSA's Federal Vehicle Policy Division at (202) 501-2824.

B. Renewable Energy. Discuss agency's policy and efforts to encourage purchase of electricity generated from renewable energy sources. (Note: The quantitative information related to this section [see below] will be reported on the agency's Data Report and Energy Scorecard. On the Energy Scorecard, self-generated renewable energy use and purchased renewable energy use will be aggregated into a single value).

1. **Self-generated renewable energy.** Identify/estimate energy use from electricity self-generated from renewable sources (photovoltaics, wind turbines) and renewable energy thermal projects (solar thermal, biomass, geothermal). Also report energy generated on Federal lands or by projects facilitated by your agency, but which may be sold to other parties.

2. **Purchased renewable energy.** Identify the renewable (i.e., wind, solar, geothermal, biomass) energy component of power purchases under competitive contract in megawatt-hours. (Note: Guidelines for counting renewable energy projects and purchases of electricity from renewable energy sources toward agency progress in reaching their goals

are available on the FEMP web site www.eren.doe.gov/femp/resources/countguide.html. Information on the Federal renewable energy goal is also available on the FEMP Web site at www.eren doe gov/femp/resources/renewableguide.html).

C. **Petroleum.** Identify petroleum-based fuels (fuel oil, LPG/propane) used in buildings in FY 1985 and in FY 2002 and the percentage change from FY 1985. (Note: The FY 2002 data will be reported on the Data Report and the Energy Scorecard).

D. **Water Conservation.** Identify/estimate water consumption and cost by the agency in FY 2002 and outline any agency-specific issues related to collection of water consumption data. (Note: This information will be reported on the Data Report and the Energy Scorecard). Refer to DOE's *Guidance to Federal Agencies for Determining Baseline Water Usage* and *Guidance to Establish Water Efficiency Improvement Goal for Federal Agencies* on the FEMP web site http://www.eren.doe.gov/femp/resources/water.html and http://www.eren doe.gov/femp/resources/waterguide html. Also in this section, highlight activities undertaken to improve water efficiency. Discuss progress in developing Water Management Plans and implementing Best Management Practices for efficient use of water (See the guidance document, *Water Efficiency Improvement Goal for Federal Agencies* on FEMP's Web site www.eren doe.gov/femp/resources/waterguide.html.)

III. **Implementation Strategies.** The purpose of this section is to identify and describe the use of strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will have employed every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective.

In each of the following subsections, present highlights for each of the strategies that were used. If certain strategies were not used, explain why not. Please provide narrative where strategies that were identified as focal points in the previous year's Implementation Plan were successful, where challenges existed in implementing strategies, and how challenges were overcome.

A. **Life-Cycle Cost Analysis.** Outline procedures in place to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Highlight examples where life-cycle cost analysis was used in capital budgeting decisions concerning energy efficiency. Report on the successes and challenges of implementing life-cycle cost effective projects. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

B. **Facility Energy Audits.** Describe the number/percentage of agency facilities audited for energy and water efficiency during FY 2002, and the total percentage of facilities audited to date. (In accordance with EPACT and Executive Order 13123, approximately 10% of facilities should be audited each year).

C. **Financing Mechanisms.** Provide narrative information related to the use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs). (Note: Quantitative information related to ESPCs and UESCs will be reported on the Data Report and the Energy Scorecard). Report funding requested and received for FY 2002 and funding requested for FY 2003 for the performance of energy surveys/audits

and for applied energy conservation measures (Note: This information will be reported on the Data Report).

D. **ENERGY STAR® and Other Energy-Efficient Products.** Describe steps taken to promote the purchase of ENERGY STAR® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria have been incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria have been incorporated into product specification language. (See the ENERGY STAR® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eren doe gov/femp/procurement/begin html], and EPA [www.energystar.gov/products/])

E. **ENERGY STAR® Buildings.** Report the number and percentage of buildings that have met the ENERGY STAR® Building criteria and have officially been designated ENERGY STAR® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR® Buildings designation. See www.energystar.gov).

F. **Sustainable Building Design.** Report whether sustainable building design principles have been incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

G. **Energy Efficiency in Lease Provisions.** Describe how energy and water efficiency are considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR® Buildings, etc.)

H. **Industrial Facility Efficiency Improvements.** Highlight activities undertaken to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

I. **Highly Efficient Systems.** Describe new construction and/or retrofit projects for which combined cooling, heating, and power systems were installed. Report whether local natural resources were surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

J. **Off-Grid Generation.** Describe the installation of non-renewable distributed generation technologies such as fuel cells, microturbines, generators (dedicated and peak shaving), and other power generation alternatives. Distributed generation from renewable sources (solar, wind, etc.) should have already been reported in Section II, part B. Some distributed generation projects could be grid connected and should be reported if used by the agency to reduce demand usage from the power grid.

K. **Electrical Load Reduction Measures.** Describe agency activities undertaken to reduce electricity load during power emergencies. These activities are required under the President's Memorandum of May 3, 2001 on Energy Conservation at Federal Facilities. (See www.eren.doe.gov/femp/resources/presidential_direct html for information on electrical load reduction measures.)

IV **Data Tables and Inventories.** Include the items listed below in the order given.

A. FY 2002 Annual Energy Management Data Report. A blank Data Report form and instructions for completing the form is included as Attachment 2 of this Guidance. Also include a Data Report for any revisions to past years' energy data along with an explanation for the revision.

B. Energy Scorecard for FY 2002. A blank Scorecard is included as Attachment 3 of this Guidance.

C. Goals of Executive Order 13123 and NECPA/EPACT (optional). This table was prepared by OMB/DOE and is attached to this guidance document. Agencies may wish to include this table in their Annual Reports for reference.

D. Industrial and Laboratory Facilities Inventory. This should include the following information: building name and building location (city and state).

E. Exempt Facilities Inventory. This should include the following information: building name, building location (city and state), and justification for exempt status.

V. **Attachment.** Attach a FY 2003 Implementation Plan to this FY 2002 Annual Report. Consult Attachment 4, *Guidance for Preparing the Federal Agency Implementation Plan for FY 2003.*

Goals of Executive Order 13123 and NECPA/EPACT

Executive Order 13123

Category	Goal	Comments
Greenhouse Gas Emissions	30% reduction by 2010	Base year is 1990. DOE will calculate agencies' progress toward this goal and report it on agencies' annual energy scorecards
Energy Efficiency		
Standard Buildings	• 30% improvement by 2005 • 35% improvement by 2010	Base year is 1985
Industrial and Laboratory Facilities	• 20% improvement by 2005 • 25% improvement by 2010	Base year is 1990
Exempt Facilities	N/A	Despite lack of quantitative goal, agencies should implement strategies to improve energy efficiency at these facilities.
Renewable Energy	• Implement renewable energy projects • Purchase electricity from renewable energy sources • Install 2,000 solar energy systems at Federal facilities by 2000 • Install 20,000 solar energy systems at Federal facilities by 2010	Installation of Federal solar energy systems will help support the Million Solar Roofs initiative
Petroleum	Reduce petroleum use	Switches to alternative energy sources should be life-cycle cost effective
Source Energy	Reduce use of source energy	Accomplish by undertaking projects that are life-cycle cost effective
Water Conservation	Reduce water consumption*	Accomplish via life-cycle cost effective measures, energy-savings performance contracts, or other financing mechanism

NECPA/EPACT

Energy Efficiency	20% improvement by 2000	Base year is 1985
Financing	Undertake all energy efficiency improvement projects that have a simple payback period of 10 years or less by 2005	E.O. 13123 expands this goal by mandating that any energy efficiency project that is life-cycle cost effective be undertaken
Audits	Conduct audits for energy efficiency on 10% of facilities annually	E.O. 13123 includes language supporting this goal

* FEMP has established water efficiency improvement goals as directed by the Executive Order. Agencies must implement Water Management Plans and Best Management Practices according to the following schedule:

05% of facilities by 2002
15% of facilities by 2004
30% of facilities by 2006
50% of facilities by 2008
80% of facilities by 2010

For more detail, see the FEMP guidance document Water Efficiency Improvement Goal for Federal Agencies

Attachment 2

FY 2002 Energy Management Data Report and Accompanying Instructions

(See separate file: DataReport02.xls for 5-page Data Report)

FY 2002 ENERGY MANAGEMENT DATA REPORT

Agency: _____ Prepared by: _____

Date: _____ Phone: _____

PART 1: ENERGY CONSUMPTION AND COST DATA

1-1. Standard Buildings/Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	0.0	$0.0	#DIV/0! /kWh	0.0	0.0	0
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0 0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$0.0	Total:	0.0	0.0	0
Standard Buildings/Facilities (Thou. Gross Square Feet)		0.0		Btu/GSF:	#DIV/0!	#DIV/0!	

1-2. Industrial, Laboratory, Research, and Other Energy-Intensive Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	0.0	$0.0	#DIV/0! /kWh	0.0	0.0	0
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0 0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$0.0	Total:	0.0	0.0	0
Energy-Intensive Facilities (Thou. Gross Square Feet)		0.0		Btu/GSF:	#DIV/0!	#DIV/0!	

1-3. Exempt Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	0.0	$0.0	#DIV/0! /kWh	0.0	0.0	0
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0.0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0 0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0 0	
		Total Costs:	$0.0	Total:	0.0	0.0	0
Exempt Facilities (Thou. Gross Square Feet)		0.0		Btu/GSF:	#DIV/0!	#DIV/0!	

1-4. Tactical Vehicles and Other Equipment

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Auto Gasoline	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Diesel-Distillate	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Aviation Gasoline	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Jet Fuel	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Navy Special	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0 0	0
Other	Thou. Gal.	0.0	$0.0	#DIV/0! /MMBtu	0.0	
		Total Costs	$0.0		0.0	0

1-5. WATER CONSUMPTION, COST AND EFFICIENCY MEASURES

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)
Water	Million Gal.	0.0	$0.0
Best Management Practice Implementation Tracking Data			
Number of facilities* in agency inventory			0
Number of facilities with completed water management plans			0
Number of facilities with at least four (4) BMPs fully implemented			0
*number in the agency inventory, can be buildings, bases, or campuses			

1-6. RENEWABLE GREEN ENERGY PURCHASES

(Only include renewable energy purchases developed or contracted after 1990)

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)
Electricity from Renewables	MWH	0.0	$0.0
Natural Gas from Landfill/Biomass	MMBtu	0.0	$0.0
Renewable Thermal Energy	MMBtu	0.0	$0.0
Other Renewable Energy_____*			

*For other renewable energy that does not fit any category, please fill in the type, units used, annual consumption and cost, and include any additional information in your narrative submission. For example, biodiesel used in non-transportation applications. (Renewable fuels used for transportation will be collected through GSA's Fleet Managment reporting process.)

1-7. SELF-GENERATED RENEWABLE ENERGY INSTALLED AFTER 199(

	Consumption Units	Total Annual Energy	Energy Used by Agency*
Electricity from Renewables	MWH	0.0	0.0
Natural Gas from Landfill/Biomass	MMBtu	0.0	0.0
Renewable Thermal Energy**	MMBtu	0.0	0.0
Other Renewable Energy_____***		0.0	0.0

*Energy used by agency equals total annual generation unless a project sells a portion of the energy it produces to another agency or the private sector. It can equal zero in the case of non-Federal energy projects developed on Federal land.

**Examples are geothermal, solar thermal, and geothermal heat pumps, and the thermal portion of combined heat and power projects. Thermal energy from geothermal heat pumps should be based on energy savings compared to conventional alternatives.

***For other renewable energy that does not fit any category, fill in the type, units used, annual consumption and cost, and include any additional information in your narrative submission. For example energy displaced by daylighting technology or passive solar design.

PART 2: ENERGY EFFICIENCY IMPROVEMENTS

2-1. DIRECT AGENCY OBLIGATIONS

	FY 2002		Projected FY 2003	
	(MMBTU)	(Thou. $)	(MMBTU)	(Thou. $)
Direct obligations for facility energy efficiency improvements, including facility surveys/audits	[redacted]	$0.0	[redacted]	$0.0
Estimated annual savings anticipated from obligations	0.0	$0.0	0.0	$0.0

2-2. ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPC)

	Annual savings (MMBTU)	(number/Thou. $)
Number of ESPC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	0.0	0
Investment value of ESPC Task/Delivery Orders awarded in fiscal year.		$0.0
Amount privately financed under ESPC Task/Delivery Orders awarded in fiscal year.		$0.0
Cumulative guaranteed cost savings of ESPCs awarded in fiscal year relative to the baseline spending		$0.0
Total contract award value of ESPCs awarded in fiscal year (sum of contractor payments for debt repayment, M&V, and other negotiated performance period services).		$0.0
Total payments made to all ESP contractors in fiscal year.		$0.0

2-3. UTILITY ENERGY SERVICES CONTRACTS (UESC)

	Annual savings (MMBTU)	(number/Thou. $)
Number of UESC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	0.0	0
Investment value of UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Amount privately financed under UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Cumulative cost savings of UESCs awarded in fiscal year relative to the baseline spending.		$0.0
Total contract award value of UESCs awarded in fiscal year (sum of payments for debt repayment and other negotiated performance period services).		$0.0
Total payments made to all UESC contractors in fiscal year.		$0.0

2-4. UTILITY INCENTIVES (REBATES)

	Annual savings (MMBTU)	(Thou. $)
Incentives received and estimated energy savings	0.0	$0.0
Funds spent in order to receive incentives		$0.0

2-5. TRAINING

	(number)	(Thou. $)
Number of personnel trained/Expenditure	0.0	$0.0

INSTRUCTIONS FOR PREPARING THE FY 2002 ANNUAL ENERGY MANAGEMENT DATA REPORT

What is the purpose of this information?
Executive Order 13123 requires agencies to track and reduce their energy use in buildings and facilities. The Energy Policy Act of 1992 (EPAct) required agencies to reduce their energy use per square foot of office space by 20 percent, relative to use in 1985, by the year 2000. E.O. 13123 extends those goals for office buildings to a 30 percent reduction by 2005 and 35 percent by 2010, relative to 1985. E.O. 13123 also requires improvements in industrial and laboratory facilities: 20 percent (relative to 1990) by 2005 and 25 percent by 2010. Part 3 of E.O. 13123 requires agencies to include budgetary information on energy use and efficiency in their budgets and sets out requirements for an annual report to the President on progress toward the energy efficiency goals.

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 the President and 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 12 tables shown in Data Report. Part 1 consists of six tables concerning energy 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 the detailed FEMP reporting guidance, which includes conversion tables.

(a) Tables 1-1, 1-2, and 1-3
For each category of buildings and facilities (standard, industrial/lab/other energy intensive, and exempt), report how much of each of the following types of energy your agency used and how much you spent for that type of energy. If you know only one of these numbers, report that and the Department of Energy will estimate the other value based on the average national cost of each form 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).

Energy type	*Reporting unit*
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)

If you were able to enter cost data for all types of energy you used, then total the annual costs and enter that number, in thousands of dollars, in the space provided.

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 the nearest tenth of an integer.

- *Standard building or facility.* This category includes office and administrative buildings and any other building that does not specifically fit the criteria for an "industrial, laboratory, research, or other energy-intensive facility " or for an exempt facility. Refer to the DOE document, Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions for additional information.

- *Industrial, laboratory, research, or other energy-intensive facilities.* This category includes data on buildings and facilities that by their nature have much higher energy consumption than standard office buildings. You can choose what measure of output or activity to use as a basis for computing energy efficiency. Your agency has the option of meeting the E.O.13123 energy reduction goals in these facilities in terms of energy use per square foot like standard buildings, or in terms of some other performance ratio, such as energy use per ton of material handled, per flight prepared, or per some other measure of productivity. Refer to section 203, Performance Goals for Industrial, Laboratory, Research, and Other Energy-Intensive Facilities, (www.eren doe gov/femp/resources/indust html).

- *Facilities exempt from meeting the E.O.13123 goals.* You should refer to the DOE document, Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions (www.eren doe gov/femp/resources/criteria html) to decide which facilities are exempt from the E.O.13123 energy-efficiency improvement goals. Although these exempt buildings are not subject to the requirements of Sections 202 and 203 of E.O.13123, you should still report energy consumption and cost data for them under the reporting category of "Exempt buildings," using the same method as for the standard buildings/facilities category.

(b) Table 1-4. Tactical vehicles and other equipment.
Table 1-4 includes information on the fuel use of non-passenger vehicles and non-vehicle engines like mobile generators. 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.) Also report the actual or estimated total cost to your agency of each type of fuel for each of the reporting years.

(c) Table 1-5 . Water consumption, cost, and efficiency measures.
If your water bills have different units of measurement from the ones required here, you must convert the data. For conversion units, refer to the detailed FEMP reporting guidance which includes conversion tables.

(d) Table 1-6. Renewable ("green") energy purchases.
With the advent of retail competition, Federal agencies have opportunities to purchase electricity in the competitive market from a retail supplier other than their local electric utility. In addition, Federal agencies have opportunities to purchase renewable energy from utilities as part of "green power" pricing programs. Your agency will get credit toward meeting the goals of E.O.13123 by distinguishing "green energy" contracts from other power contracts, and reporting the portion of power attributable to renewable sources. Agencies should also indicate whether green energy purchase credit for energy efficiency goals should be applied to the standard buildings goal or the industrial/other energy intensive facilities goal.

(5) *Purchases of renewable electricity.* Report the amount of renewable electricity you purchased from suppliers whose energy products are partially or completely derived from renewable sources. Your utility suppliers can tell you what percentage of the power is derived from renewables. Apply that percentage to both the gross usage and cost data to complete the table. For example, if you purchased 5,000 MWH under a "green energy " contract where 10% of the power is from renewables, you would report 50 MWH and 10% of the total cost.

(6) *Purchased biomass or landfill gas (renewable energy sources).* For competitive purchases of natural gas from renewable energy sources, provide the annual usage (in millions of Btu) and the cost. Generally this would be purchased separately from other gas, so the renewable fraction is 100 percent. But if you purchased this gas in a mix with conventional natural gas, use the percentage mix to calculate and report the amount that is actually "renewable."

(7) *Purchased thermal energy from renewable energy sources.* For purchases of any form of thermal energy from renewable energy sources, provide the annual usage (in million BTU) and the cost.

(e) Table 1-7. Self-generated renewable energy installed after 1990
In order to get credit toward the renewable energy goal, agencies must provide information on self-generated renewable energy installed after 1990. Because this energy is not reported in Tables 1-1, 1-2, or 1-3, it must be reported here to be counted toward the renewable energy goal. Agencies can count generation from renewable energy projects that use Federal land or resources if the agency played a role in facilitating a project's development. Therefore, agencies should report the total energy generated by their projects (this is the amount that is credited toward the Federal goal). In addition, the agency should report the amount of this energy actually used by the agency, if excess generation is being sold to other entities.

(f) 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 2-5.

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.

(g) 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 "MMBTU" column, enter the total of the average annual energy savings anticipated from all ESPC projects awarded during the year, in millions of site 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, Exhibit 55 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 <u>not</u> 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.

(h) 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. These contracts can either be negotiated directly by the site, or placed through an existing "area-wide agreement" the utility has with the General Services Administration to provide their commodity to the site.

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 "MMBTU" 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 <u>not</u> 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.

(i) Table 2-5. 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 3

Agency Energy Scorecard for FY 2002

(See separate file: Scorecard02.rtf for 2-page Scorecard)

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Attachment 4

Guidance for Preparing the Federal Agency Energy Management Implementation Plan for FY 2003

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Guidance for Preparing the Agency Energy Management Implementation Plan for FY 2003

The Implementation Plan should be formatted as described below. The format generally follows the outline for the Annual Report. Although the Implementation Plan will be submitted as an attachment to the Annual Report, the Plan should be considered a stand-alone document. Therefore, please do not refer to the Annual Report for Section I, Part A, or for any other part of the Plan that you feel may be redundant with the Annual Report. This Plan should be brief and should describe only activities planned for the next fiscal year.

I. **Management and Administration.** This section will describe (1) the agency's establishment of an energy management infrastructure and (2) the agency's plans to use management tools in implementing Executive Order 13123.

A. **Energy Management Infrastructure**

1. **Senior Agency Official.** Identify the agency's senior energy official and describe the official's role and responsibilities.

2. **Agency Energy Team.** Identify the members of the team and describe the team's responsibilities.

B. **Management Tools**

1. **Awards (Employee Incentive Programs).** Describe the agency's plans to use employee incentive programs to reward exceptional performance in implementing Executive Order 13123.

2. **Performance Evaluations.** Describe agency plans to include successful implementation of provisions of Executive Order 13123 in the position descriptions and performance evaluations of members of the agency energy team and facility/energy mangers.

3. **Training and Education.** Describe plans to ensure that all appropriate personnel receive training for energy management requirements. Describe plans to develop and implement agency outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient products for Federal purchase card users.

4. **Showcase Facilities.** Describe plans to construct or renovate exemplary facilities that the agency plans to designate as Showcase Facilities. Discuss why the facilities will be considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).

II. **Implementation Strategies.** The purpose of this section is to describe plans to use strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will employ every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective. If certain strategies will not be used, please explain why not.

A. **Life-Cycle Cost Analysis.** Outline plans to institute procedures to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Report on plans to implement the 10-Year Simple Payback Rule. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

B. **Facility Energy Audits.** Describe the number/percentage of agency facilities that will be audited for energy and water efficiency during the next fiscal year. (Approximately 10% of facilities should be audited each year). Describe the prioritization criteria for audits (e.g., oldest facilities, most energy intensive facilities, etc.)

C. **Financing Mechanisms.** Provide narrative information related to the planned use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs).

D. **ENERGY STAR® and Other Energy-Efficient Products.** Describe steps to be taken to promote the purchase of ENERGY STAR® products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria will be incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria will be incorporated into product specification language. (See the ENERGY STAR® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eren.doe.gov/femp/procurement/begin.html], and EPA [www.epa.gov/uiseerko/index.html])

E. **ENERGY STAR® Buildings.** Report the number and percentage of buildings that, in the next fiscal year, are expected to meet the ENERGY STAR® Building criteria and to be officially designated ENERGY STAR® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR® Buildings designation. See www.epa.gov/buildings/label).

F. **Sustainable Building Design.** Report whether sustainable building design principles will be incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

G. **Energy Efficiency in Lease Provisions.** Describe how energy and water efficiency will be considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR® Buildings, etc.)

H. **Industrial Facility Efficiency Improvements.** Highlight planned activities to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

I. **Highly Efficient Systems.** Describe plans for new construction and/or retrofit projects for which combined cooling, heating, and power systems will be installed. Report whether local natural resources will be surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

J. **Off-Grid Generation.** Describe plans for installing new solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives.

K. **Renewable Energy Purchases.** Describe agency plans to encourage the purchase of electricity and thermal energy generated from renewable sources.

L. **Electrical Load Reduction Measures.** Describe agency plans for implementing electrical load reduction measures to be taken during power emergencies to cut electricity consumption in buildings and facilities. (See www.eren doe gov/femp/resources/presidential_direct html for information on electrical load reduction measures.)

M. **Water Conservation.** Highlight activities to be undertaken to improve water efficiency. Discuss plans to develop and implement Water Management Plans and Best Management Practices for efficient use of water (Note: See the guidance document entitled *Water Efficiency Improvement Goal for Federal Agencies* on FEMP's Web site [www eren doe.gov/femp/resources/guidances html]).

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Attachment 5

Reporting Units and Conversion Factors for Federal Energy Management Reporting

REPORTING UNITS AND CONVERSION FACTORS FOR FEDERAL ENERGY MANAGEMENT REPORTING

Standard Buildings/Facilities
Industrial, Laboratory, and Other Energy-Intensive Facilities
Exempt Facilities

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
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
LPG/Propane	1,000 Gallons	95,500,000	100,752,500,000	100.7525
Coal	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
Other	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0

Vehicles/Equipment

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
Auto Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
Diesel	1,000 Gallons	138,700,000	146,328,500,000	146.3285
LPG/Propane	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
Jet Fuel	1,000 Gallons	130,000,000	137,150,000,000	137.150
Navy Special	1,000 Gallons	138,700,000	146,328,500,000	146.3285
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