

**Facility Energy Management Guidelines and Criteria  
for Energy and Water Evaluations in Covered Facilities  
(42 U.S.C. 8253 Subsection (f), *Use of Energy and Water Efficiency  
Measures in Federal Buildings*)  
25 November 2008**

***I. Background***

***A. Authority***

Section 432 of the Energy Independence and Security Act of 2007 (EISA) amends section 543 of the National Energy Conservation Policy Act, by adding a new subsection (f) *Use of Energy and Water Efficiency Measures in Federal Buildings* (42 U.S.C. 8253(f); referred to as “the statute” in this guidance). The new subsection prescribes a framework for facility energy project management and benchmarking, including the following elements:

- Designated “facility energy managers” for ensuring compliance of “covered facilities” subject to the requirements;
- “Comprehensive energy and water evaluations;”
- Implementation of identified efficiency measures;
- Follow-up on implemented efficiency measures;
- Web-based tracking system of covered facilities’ energy use, evaluations, projects, and follow-up;
- Benchmarking; and
- Summaries of agency implementation status in Office of Management and Budget (OMB) Scorecards.

***B. DOE Guidelines and Other Actions***

The statute requires that the Secretary of Energy issue guidelines that each Federal agency shall follow for implementing the *Facility Energy Managers* and *Energy and Water Evaluations* provisions of the statute (42 U.S.C. 8253(f)(2) and (3)) not later than 180 days after the date of enactment of EISA. This document fulfills this requirement.

Not later than one year after the date of enactment of EISA (i.e., not later than December 19, 2008), DOE is required to issue guidelines for the *Implementation of Identified Energy and Water Efficiency Measures*, and *Follow-up on Implemented Measures* provisions of the statute (42 U.S.C. 8253(f)(4) and (5)). Also not later than December 19, 2008, the statute requires DOE to deploy a Web-based tracking system that tracks:

- Energy and water evaluations undertaken at covered facilities;
- Estimated cost and savings for measures to be implemented in a facility;
- Implementation of identified energy and water efficiency investments or energy conservation measures (ECMs);
- Follow-up on implemented measures;
- Measured savings and persistence of savings for implemented measures; and
- Facility benchmarking information.

In addition, not later than December 19, 2008, the Secretary of Energy is required to select or develop a building energy use benchmarking system for each type of building and to issue guidance for use of the system.

This document provides the guidelines and criteria for implementation of the *Facility Energy Managers* and *Energy and Water Evaluations* provisions of the statute. The additional guidelines and the Web-based tracking system will be addressed through separate guidance documents currently being developed. All guidance materials related to the statute will eventually be incorporated into one comprehensive guidance document.

## **II. Facility Energy Managers**

### **A. Definition and Clarifications**

Under the statute, the term “energy manager,” with respect to a facility, means the individual who is responsible for ensuring compliance with this subsection by facility; and reducing energy use at the facility. The term “energy manager” may include:

- A contractor of a facility;
- A part-time employee of a facility; and
- An individual who is responsible for multiple facilities.

(42 U.S.C. 8253(f)(1)(B))

This document further specifies that, at minimum, facility energy managers must meet the definition of “trained energy managers” from Section 151, Subtitle F of the Energy Policy Act of 1992, which states that:

“‘trained energy manager’ means a person who has demonstrated proficiency, or who has completed a course of study in the areas of fundamentals of building energy systems, building energy codes and applicable professional standards, energy accounting and analysis, life-cycle cost methodology, fuel supply and pricing, and instrumentation for energy surveys and audits.”

(42 U.S.C. 8262(3))

DOE recommends that agencies interpret a “course of study” to mean the completion of 32 course hours. Agencies may establish their own minimum requirements for facility energy managers based on the statutory definition.

### **B. Scope of the Energy Managers**

Each agency may determine for itself any limits on how many facilities a facility energy manager may be responsible for based on its organizational structure and the nature of its buildings. The key criteria for limiting the number of facilities for which an energy manager is responsible is the capability of the energy manager to procure or otherwise complete comprehensive evaluations in assigned facilities within four years. This capability should also include the management of subsequent project implementation and tracking.

Many agencies may already have facility manager assignments in place based on existing square footage criteria (U.S. Army) or organizational structure at the regional or service center level (General Services Administration). Each agency should evaluate their existing criteria for assigning energy manager responsibility to determine appropriateness for the new requirements.

The example from the Army below illustrates existing criteria already in place at an agency that satisfies the requirement.

**Example from the U.S. Army Regulation 420-1, Army Facilities Management, Chapter 23:**

**“1 manager/5 million square feet of space”.**

Total Reported Energy-Using Sq. Ft. / 5,000,000 Sq. Ft. = Required Number of Energy Managers  
Results over 0.5 are rounded up to a full time employee and fractional amounts less than 0.5 can utilize a part time employee. For example:

Installations from 2.5 to 5 million square feet: 1 full-time energy manager

Installations from 7.5 to 10 million square feet: 2 full-time energy staff

### **C. Resource Efficiency Managers (REMs)**

Agencies may employ the Resource Efficiency Manager (REM) concept for designating facility energy managers to covered facilities. REMs focus on reducing the cost of energy, water, fuel, waste disposal and pollution prevention through improved practices, equipment modifications and consumer awareness. REMs can also identify, design and implement no-cost/low-cost projects and coordinate implementation of larger capital projects financed through alternative energy financing, such as energy savings performance contracts (ESPCs) or utility energy service contracts (UESCs). REMs also bring an awareness of funding available through public benefit programs that are typically administered by state governments.

REMs work onsite at Federal facilities to meet resource-efficiency objectives. They are typically contractors, rather than Federal employees, and work with existing staff to enhance conservation efforts. A premise of the program is that cost savings resulting from reduced use of resources cover the REM’s salary. Typically, benefits far exceed that threshold expectation. Annual energy budgets for Federal sites that employ REMs are usually in the range of \$3 million to \$5 million. Sites with smaller energy budgets can and often do share the services of a single REM.

DOE’s Federal Energy Management Program (FEMP) offers a guidebook, *Contracting for a Resource Efficiency Manager* ([http://www1.eere.energy.gov/femp/pdfs/rem\\_guidebook.pdf](http://www1.eere.energy.gov/femp/pdfs/rem_guidebook.pdf)) that provides practical guidance to agencies pursuing this approach. This guidebook examines each step of the process—from making the decision to hire a REM, to drafting a contract, to gauging the REM’s performance.

### **D. Role of Interagency Energy Management Task Force Members**

Each agency’s member of the Interagency Energy Management Task Force established under 42 U.S.C. 8257 has a coordinating role with respect to the activities undertaken by the designated facility energy managers in implementing subsection (f). One of the duties of Task Force members cited in 42 U.S.C. 8257 is to “coordinate energy surveys conducted by the agencies.” Responsibilities of the Task Force member under subsection (f) may include:

- Identifying the covered facility inventory,
- Ensuring that each covered facility has a designated facility energy manager,
- Maintaining the agency’s internal list of facility energy managers, and
- Prioritizing and assigning 25 percent of covered facilities for yearly evaluations.

### ***E. Designation of Facility Energy Managers***

The statute states that “Each Federal agency shall designate an energy manager responsible for implementing this subsection and reducing energy use at each [covered] facility.” (42 U.S.C. 8253(f)(2)(A)) While there is no requirement for reporting these specific designations to Congress, OMB, or DOE, a system of accountability is necessary to ensure compliance. This facility-level system of accountability must also be flexible enough to accommodate personnel turnover and allow each agency to control the release of the identities of the designated facility energy managers (who may be Federal employees or private contractors).

To address these issues, a unique identifier will be created for each designated facility energy manager. This unique identifier will be used as the user identification for logging into the web-based tracking system and entering data pertaining to the covered facilities. It will be the responsibility of each agency’s Senior Official for Executive Order 13423 or Interagency Energy Management Task Force member to maintain a master list which links facility energy managers contact information with the unique identifier and the facility(ies) that the energy manager is designated for. The unique identifier should use the following formatting convention:

XXXX-00-00000

- Where XXXX represents the agency acronym, i.e., DOD, DOE, USDA;
- 00 represents the agency’s bureau, region, or other agency-developed subgrouping (if necessary); and
- 00000 uniquely identifies the facility energy manager.

By creating a unique identifier for each facility energy manager, accountability would be achieved while maintaining the privacy of the agency employee or contractor. With the identifier, the number of facilities for which a facility energy manager has been designated responsibility can be determined as well as providing accountability that a facility actually has a designated energy manager.

Agencies should have their master lists of covered facilities and their designated facility managers with their unique identifiers assembled and in place not later than January 1, 2009. DOE will be collecting the lists of covered facilities and identifiers of assigned energy managers from each agency as part of the annual energy reporting process for fiscal year 2008. These lists and associated data will become the foundation of the web-based tracking system.

### ***F. Facility Energy Manager Incentives and Accountability***

Agencies shall include successful implementation of provisions of subsection (f) in the position descriptions and performance evaluations of designated Senior Officials under Executive Order 13423, Interagency Energy Management Task Force members, members of the agency energy team, designated facility energy managers, and other appropriate employees.

Agencies may use employee incentive programs to raise visibility and reward exceptional performance in implementing subsection (f) of the statute and consider nominating exceptional performers for Federal Energy and Water Management Awards ([http://www1.eere.energy.gov/femp/services/awards\\_fewm.html](http://www1.eere.energy.gov/femp/services/awards_fewm.html)).

### **III. Criteria for Covered Facilities**

#### **A. Definitions and Clarifications - Facilities**

Under the statute, Federal energy managers are responsible for implementing the requirements of subsection (f) at “covered facilities.” (42 U.S.C. 8253(f)(2)(A)) The statute directs the Secretary of Energy to develop the criteria for defining “covered facilities.” (42 U.S.C. 8253(f)(2)(B)) However, the statute does provide a definition of the term “facility.”

Under the statute, the term “facility” means any building, installation, structure, or other property (including any applicable fixtures) owned or operated by, or constructed or manufactured and leased to, the Federal Government. This includes--

- A group of facilities at a single location or multiple locations managed as an integrated operation; and
- Contractor-operated facilities owned by the Federal Government.

(42 U.S.C. 8253(f)(1)(C)(i) and (ii))

The statute excludes from this definition any land or site for which the cost of utilities is not directly paid by the Federal Government.

(42 U.S.C. 8253(f)(1)(C)(iii))

In applying the definition of “facility,” DOE recommends that “managed as an integrated operation” be interpreted to mean a group of buildings or structures that share the same servicing energy and water utilities so that utility data can be aggregated easily. This will facilitate logical groupings of buildings or structures while also ensuring that the agency has the utility data needed for determining that the sum of all covered facilities meets the threshold, discussed below, of 75 percent of total facility energy use.

Another recommendation for agencies in defining “covered facility” is to limit the size and location of the individual buildings that comprise a single “covered facility” so that it is possible to complete the required comprehensive energy and water evaluation for the facility once every four years.

#### Determining Energy Use Target for Agency Total Covered Facilities

The statute states that, for the purpose of subsection (f), “[t]he Secretary of Energy shall develop criteria, after consultation with affected agencies, energy efficiency advocates, and energy and utility service providers, that cover, at a minimum, Federal facilities, including central utility plants and distribution systems and other energy intensive operations, that constitute at least 75 percent of facility energy use at each agency.”

(42 U.S.C. 8253(f)(2)(B))

The statute makes clear that the denominator for determining the 75 percent threshold for covered facilities’ energy use is an agency’s total facility energy use. Agencies will calculate the minimum energy-use threshold of their covered facilities using the statutory reporting procedures in effect for fiscal year 2007, as follows:

1. Using the agency’s FY 2007 Energy Management Data Report (<http://www1.eere.energy.gov/femp/docs/energydatareportfy07.xls>), add the total site-delivered billion Btu in Table 1-1, EPACT/E.O. 13423 Goal Subject Buildings (cell G18)

to the total site-delivered billion Btu in Table 1-2, EPACT/E.O. 13423 Goal Excluded Facilities (cell G32).

2. Multiply the combined site-delivered billion Btu by 75 percent, i.e., (cell G18 + cell G32) x 0.75 = minimum energy-use threshold for covered facilities.

### Relationship to Other Statutory Energy Management Requirements

The existing statutory energy performance requirement for Federal buildings to reduce energy intensity by 30 percent in 2015 (42 U.S.C. 8253 subsection (a); reduction goal) groups Federal buildings into two categories: those subject to the reduction goal (Goal Buildings) and those that are not (Excluded). Exclusion criteria for the energy reduction goal were published by DOE on January 27, 2006 ([http://www1.eere.energy.gov/femp/pdfs/exclusion\\_criteria.pdf](http://www1.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf)) after passage of the Energy Policy Act of 2005.

DOE recommends that agencies use Goal Buildings to meet the 42 U.S.C. 8253(f) covered facility requirement, but recognizes that some agencies may need to include facilities excluded from the reduction goal in order to meet the 75 percent energy use threshold under 42 U.S.C. 8253(f). DOE also recognizes that under the separate requirements of 42 U.S.C. 8253(f), agency covered facility populations may not align with Goal and Excluded Buildings defined in the reduction goal [42 U.S.C. 8253(a) and (c)].

The facility-level reporting required under EISA's new subsection (f) supplements, and does not substitute for, necessary reporting toward the 42 U.S.C. 8253(a) reduction goal. Agencies will still need to report total consumption, costs, and gross square footage for Goal Buildings and Excluded Facilities for which the Government pays for energy use.

Although non-covered facilities may be excused from the requirements of subsection (f), efforts to reduce energy and water consumption are still required in these facilities, and appropriate goals and programs should be established by the agency.

### ***B. Covered Facilities – Approach for Designation***

Once an agency has grouped its buildings according to the parameters and recommendations described above, it must identify which of the facility groupings are designated as covered buildings for the purpose of subsection (f) compliance. DOE recommends that agencies rank those facilities with greatest energy use in descending order until the target of 75 percent of facility energy use is reached. This will result in the minimal, and hopefully a manageable, number of covered facilities for designation by the agency to meet the requirement.

If an agency is unable to easily disaggregate its energy use according to individual building, then DOE recommends ranking those facilities with the greatest gross square footage in descending order. Then the agency must collect the energy use data for each of these buildings until their cumulative energy use reaches the target 75 percent of total facility use.

DOE encourages each agency to include as many facilities as it can manage in its covered facility inventory since 75 percent of facility energy use is the *minimum* requirement.

### Submittal of Covered Facility Lists to DOE

Agencies shall submit their lists of covered facilities not later than January 5, 2009 as part of the fiscal year 2008 energy reporting process. These lists may be used to populate the initial version of the required web-based tracking system and shall contain the following elements:

- Facility name,
- Location (city, state or zip code),
- Facility gross square footage, and
- Facility annual energy consumption in billion of site-delivered Btu.

The statute states that, at the request of a Federal agency, the Secretary of Energy may exempt specific data for specific facilities from disclosure to the public in the web-based tracking system for national security purposes. DOE recommends that these types of facilities not be included in the covered facilities subject to subsection (f), if possible. If these types of facilities are included as covered facilities, agencies should note them when submitting their lists to DOE.

In future years, if covered facilities leave the agency's inventory and/or covered facility energy use drops below the 75 percent threshold, the agency must add new covered facilities to meet the requirement.

## ***IV. Energy and Water Evaluations***

### ***A. Definitions and Clarifications***

Paragraph (3) of subsection (f) of the statute (42 U.S.C. 8253(f)(3)) states that “. . .energy managers shall complete, for each calendar year, a comprehensive energy and water evaluation for approximately 25 percent of the [covered] facilities of each agency. . .in a manner that ensures that an evaluation of each such facility is completed at least once every 4 years.” (42 U.S.C. 8253(f)(3)(A)) Further, “[a]s part of the evaluation. . ., the energy manager shall identify and assess recommissioning measures (or, if the facility has never been commissioned, retrocommissioning measures) for each such facility.” (42 U.S.C. 8253(f)(3)(B)) The recommissioning and retrocommissioning assessments are discussed in detail below.

### Schedule for Completing Evaluations

Agencies are provided some flexibility in completing evaluations of “approximately” 25 percent of covered facilities each year, as long as all covered facilities are evaluated over a four year period. Agencies can perform evaluations of covered facilities on the basis of 25 percent of the:

- Number of covered facilities,
- Energy use of covered facilities, or
- Square footage of covered facilities.

The overriding requirement is that agencies will have to address all covered facilities within four years in any case. DOE recommends that 25 percent *of the energy use* of covered facilities be evaluated each year as the best way to evenly distribute work load over the four year period. In any event, agencies must rely on a consistent metric for the 25-percent reviews during a complete 4-year review period.

### Date for Completion of First Evaluations

According to the statute, “Effective beginning on the date that is 180 days after the date of enactment of this subsection and annually thereafter, energy managers shall complete, for each

calendar year, a comprehensive energy and water evaluation for approximately 25 percent of the facilities of each agency[.]” [42 U.S.C. 8253(f)(3)(A)]. Since 2009 is the first full calendar year after the effective date, DOE expects that each agency will complete 2009 evaluations by June 16, 2009.

### Recently Evaluated Facilities

Agencies with facilities that have completed energy and water evaluations in the previous two calendar years that meet the minimum prescribed specifications below may count these evaluations toward the 25 percent requirement for the first year, due June 16, 2009. This applies to both the commissioning and audit components of the evaluations.

### **B. Commissioning Component of Evaluations**

The statute provides detailed definitions pertaining to commissioning:

(A) COMMISSIONING.--The term ‘commissioning’, with respect to a facility, means a systematic process--

“(i) of ensuring, using appropriate verification and documentation, during the period beginning on the initial day of the design phase of the facility and ending not earlier than 1 year after the date of completion of construction of the facility, that all facility systems perform interactively in accordance with--

“(I) the design documentation and intent of the facility; and

“(II) the operational needs of the owner of the facility, including preparation of operation personnel; and

“(ii) the primary goal of which is to ensure fully functional systems that can be properly operated and maintained during the useful life of the facility.

(42 U.S.C. 8253(f)(1)(A))

(F) RECOMMISSIONING.--The term ‘recommissioning’ means a process--

“(i) of commissioning a facility or system beyond the project development and warranty phases of the facility or system; and

“(ii) the primary goal of which is to ensure optimum performance of a facility, in accordance with design or current operating needs, over the useful life of the facility, while meeting building occupancy requirements.

(42 U.S.C. 8253(f)(1)(F))

(G) RETROCOMMISSIONING.--The term ‘retrocommissioning’ means a process of commissioning a facility or system that was not commissioned at time of construction of the facility or system.

(42 U.S.C. 8253(f)(1)(G))

As stated above, energy managers are required to identify and assess recommissioning measures (or, if the facility has never been commissioned, retrocommissioning measures) as part of the necessary evaluation. To fulfill the requirement of the commissioning component of the energy and water evaluation, DOE recommends a two-step approach:

- 1) Initial Assessment. Prioritize and conduct an initial walk-through of buildings in a covered facility. This walk-through can take from 4 to 8 hours for a typical office building in addition to comprehensive data collection and analysis to determine if it is a

good candidate for a more detailed assessment. If the initial walk-through finds that the building does not require more a detailed commissioning effort (i.e., all equipment is operating according to specifications and any identified minor remedial actions are addressed), then the commissioning requirement for the building is fulfilled.

- 2) Detailed Re/Retrocommissioning Evaluation. A more detailed evaluation should be conducted in those buildings identified as economically viable candidates for further commissioning efforts in the initial assessment. Detailed commissioning efforts can take from 1 to 4 days, depending on the size of the buildings within the targeted facility. Additional energy/water-related O&M and optimization opportunities will often be identified. The expected savings and cost to implement will also be provided. More capital-intensive retrofit opportunities incidental to the commissioning assessment may be identified and should be passed forward to the detailed audit portion of the comprehensive energy and water evaluation.

### Exclusion of Small Facilities

Generally, it is often not cost effective to re/retrocommission facilities comprising less than 50,000 square feet and the expense of re/retrocommissioning is the primary criteria for exclusion. For the purpose of the commissioning component of the required evaluation, agencies may exclude covered facilities with less than 50,000 square feet, unless the facility houses energy intensive operations. Agencies may exclude from the commissioning component of the required evaluation covered facilities that house energy intensive operations (e.g., data centers, health facilities, or utility plants) and are less than 25,000 square feet.

### Commissioning Resources

FEMP offers its facility assessment protocol/checklist as a model for commissioning efforts. The list can be found at [http://www1.eere.energy.gov/femp/docs/eset\\_checklist.xls](http://www1.eere.energy.gov/femp/docs/eset_checklist.xls).

The following internet links also provide resources pertaining to commissioning and retro/recommissioning:

- Portland Energy Conservation, Inc. (PECI) Commissioning Resources: [http://www.peci.org/CxTechnical/Tools\\_Guides/overview.html](http://www.peci.org/CxTechnical/Tools_Guides/overview.html)
- California Commissioning Collaborative: <http://www.cacx.org/>
- New York State Energy Research and Development Authority (NYSERDA) Commissioning Resources: <http://www.nyserda.org/programs/Commissioning/default.asp>
- ASHRAE HVAC Commissioning Guideline1: <http://www.ashrae.org/publications/page/1285>
- FEMP Continuous Commissioning Guidebook: [http://www1.eere.energy.gov/femp/operations\\_maintenance/om\\_ccguide.html](http://www1.eere.energy.gov/femp/operations_maintenance/om_ccguide.html)

### **C. Audit Component of Evaluations**

The required comprehensive evaluations also include an audit component. The audit report component of the facility energy and water evaluations needs to contain sufficient detail and actionable information about energy conservation measures (ECMs) so that sound project decisions can be made based on the audit results. DOE's audit standard for meeting the statutory requirement is sufficiently rigorous, but flexible enough to ensure that viable energy-saving projects are identified, and also not so onerous as to require extensive resources to be spent

auditing structures where engineers can quickly and easily conclude that no viable projects currently exist.

The format of the required audit report is based on the Energy Saving Performance Contract (ESPC) Preliminary Assessment (PA) level audits. A PA-level audit contains the documented findings of a walk-through survey and “may include, but is not limited to, an evaluation of energy cost savings and energy unit savings potential, building conditions, energy consuming equipment, and hours of use or occupancy, for the purpose of developing preliminary technical and price proposals....”

Audit reports range in length according to facility size. A typical page-count for audit reports of various facility sizes are shown below:

- <20,000 square feet: 20-30 pages
- 20,000 to 100,000 square feet: 30-60 pages
- >100,000 square feet: 60-150 pages

Audit reports should contain technical and price assessments in accordance with the following elements:

### **1. Project Overview**

- a. Executive Summary - As a minimum, a narrative description of the project summarizing the ECMs; the energy, water, and related cost savings; implementation price (including design, construction, management, and inspection costs); financial summary; and results from any renewable energy assessment.
- b. Site Information [Not required unless requested by agency.]

### **2. Technical Assessment**

- a. ECM description - For each ECM proposed, the audit shall contain narrative information for items as applicable, in the format specified below. All applicable measures should be considered and included.
  1. ECM title and narrative description.
  2. Location(s) affected.
  3. ECM projected energy usage, cost, and savings.
  4. ECM interface with agency equipment and detailed description of existing energy consuming equipment and systems.
  5. Utility interruptions – Specify the extent of any utility interruptions needed for the installation of the proposed ECM.
  6. Agency support required – Specify any agency support required during implementation of the ECM.
  7. Describe potential environmental impacts and National Environmental Policy Act (NEPA) compliance actions resulting from the installed ECM.
  8. Provide information on potential utility rebates, system benefits and fund financial and tax incentives. If applicable, specify ECM financial incentive(s) available, source, estimated payment amount; how and when

payment or financing reduction will be applied; impact on project cash flow (e.g., ancillary payment before acceptance, reducing implementation price and tax-based financing amount) and proposed percentage of estimated financial incentive payment or financing reduction the contractor guarantees.

- b. List of identified energy and water efficiency measures prioritized based on Federal life cycle cost methodology (NIST-developed BLCC software, see [http://www1.eere.energy.gov/femp/information/download\\_blcc.html](http://www1.eere.energy.gov/femp/information/download_blcc.html)). The following data points will be required for the web-based tracking system:
1. Description of measure.
  2. Estimated cost of measure.
  3. Estimated annual energy/water consumption and cost savings.
  4. Estimated life-cycle energy/water savings.
  5. Estimated life-cycle cost savings.
  6. Savings-to-Investment Ratio (SIR).
  7. Payback Period.
  8. Summary of the economics of bundled ECMs with total interactive life-cycle savings, SIR, and payback period.

#### ***D. Approaches for Completing Evaluations***

Agencies can draw upon the following resources for completing their comprehensive energy and water evaluations:

- Government employees with energy training (in-house facility engineering staff);
- DOE National Laboratory staff through a work-for-others interagency agreement;
- Private sector contractors either on a fee-for-service basis or through a financed arrangement under a utility energy service contract (UESC) or ESPC;
- Private audit contractors retained on a fee-for-service basis through the General Services Administration (GSA) Schedule 03FAC, *Facilities Maintenance and Management, Energy Management Support and Services Solutions* ([www.gsa.gov/energyservices](http://www.gsa.gov/energyservices)), under Category 871 201, *Energy Audit Services*; or
- Resource Efficiency Managers, whether fully dedicated to a facility or shared.

Agency energy managers should consider potential funding source when making a determination as to which resource to use in accomplishing the required evaluations. For example, the agency should only retain the energy service company (ESCO) or utility under a UESC or ESPC if it intends to finance the implementation of measures through that UESC/ESPC. Because ESPC payment streams are based on guaranteed energy cost savings, audits that are initially completed by any entity other than the ESCO proposing an ESPC, will likely need to be repeated if the agency chooses to implement ECMs under an ESPC. As a result, where agencies are likely to implement ECMs using ESPCs, using the same ESCO for the audit and implementation phase will be more cost effective than repeating the audit for the purpose of the ESPC.

Implementation of identified re/retrocommissioning measures can be included in the detailed energy survey used to develop the final ESPC/UESC proposal.

## APPENDIX: SECTION 432 OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007 (EISA)

### SEC. 432. MANAGEMENT OF ENERGY AND WATER EFFICIENCY IN FEDERAL BUILDINGS.

Section 543 of the National Energy Conservation Policy Act (42 U.S.C. 8253) is amended by adding at the end the following:

“(f) *Use of Energy and Water Efficiency Measures in Federal Buildings.*--

“(1) **DEFINITIONS.**--In this subsection:

“(A) **COMMISSIONING.**--The term ‘commissioning’, with respect to a facility, means a systematic process--

“(i) of ensuring, using appropriate verification and documentation, during the period beginning on the initial day of the design phase of the facility and ending not earlier than 1 year after the date of completion of construction of the facility, that all facility systems perform interactively in accordance with--

“(I) the design documentation and intent of the facility; and

“(II) the operational needs of the owner of the facility, including preparation of operation personnel; and

“(ii) the primary goal of which is to ensure fully functional systems that can be properly operated and maintained during the useful life of the facility.

“(B) **ENERGY MANAGER.**--

“(i) **IN GENERAL.**--The term ‘energy manager’, with respect to a facility, means the individual who is responsible for--

“(I) ensuring compliance with this subsection by the facility; and

“(II) reducing energy use at the facility.

“(ii) **INCLUSIONS.**--The term ‘energy manager’ may include--

“(I) a contractor of a facility;

“(II) a part-time employee of a facility; and

“(III) an individual who is responsible for multiple facilities.

**“(C) FACILITY.--**

**“(i) IN GENERAL.--**The term ‘facility’ means any building, installation, structure, or other property (including any applicable fixtures) owned or operated by, or constructed or manufactured and leased to, the Federal Government.

**“(ii) INCLUSIONS.--**The term ‘facility’ includes--

**“(I)** a group of facilities at a single location or multiple locations managed as an integrated operation; and

**“(II)** contractor-operated facilities owned by the Federal Government.

**“(iii) EXCLUSIONS.--**The term ‘facility’ does not include any land or site for which the cost of utilities is not paid by the Federal Government.

**“(D) LIFE CYCLE COST-EFFECTIVE.--**The term ‘life cycle cost-effective’, with respect to a measure, means a measure the estimated savings of which exceed the estimated costs over the lifespan of the measure, as determined in accordance with section 544.

**“(E) PAYBACK PERIOD.--**

**“(i) IN GENERAL.--**Subject to clause (ii), the term ‘payback period’, with respect to a measure, means a value equal to the quotient obtained by dividing--

**“(I)** the estimated initial implementation cost of the measure (other than financing costs); by

**“(II)** the annual cost savings resulting from the measure, including--

**“(aa)** net savings in estimated energy and water costs; and

**“(bb)** operations, maintenance, repair, replacement, and other direct costs.

**“(ii) MODIFICATIONS AND EXCEPTIONS.--**The Secretary, in guidelines issued pursuant to paragraph (6), may make such modifications and provide such exceptions to the calculation of the payback period of a measure as the Secretary determines to be appropriate to achieve the purposes of this Act.

**“(F) RECOMMISSIONING.--**The term ‘recommissioning’ means a process--

**“(i)** of commissioning a facility or system beyond the project development and warranty phases of the facility or system; and

**“(ii)** the primary goal of which is to ensure optimum performance of a facility, in accordance with design or current operating needs, over the useful life of the facility, while meeting building occupancy requirements.

“(G) **RETROCOMMISSIONING.**--The term ‘retrocommissioning’ means a process of commissioning a facility or system that was not commissioned at time of construction of the facility or system.

“(2) **FACILITY ENERGY MANAGERS.**--

“(A) **IN GENERAL.**--Each Federal agency shall designate an energy manager responsible for implementing this subsection and reducing energy use at each facility that meets criteria under subparagraph (B).

“(B) **COVERED FACILITIES.**--The Secretary shall develop criteria, after consultation with affected agencies, energy efficiency advocates, and energy and utility service providers, that cover, at a minimum, Federal facilities, including central utility plants and distribution systems and other energy intensive operations, that constitute at least 75 percent of facility energy use at each agency.

“(3) **ENERGY AND WATER EVALUATIONS.**--

“(A) **EVALUATIONS.**--Effective beginning on the date that is 180 days after the date of enactment of this subsection and annually thereafter, energy managers shall complete, for each calendar year, a comprehensive energy and water evaluation for approximately 25 percent of the facilities of each agency that meet the criteria under paragraph (2)(B) in a manner that ensures that an evaluation of each such facility is completed at least once every 4 years.

“(B) **RECOMMISSIONING AND RETROCOMMISSIONING.**--As part of the evaluation under subparagraph (A), the energy manager shall identify and assess recommissioning measures (or, if the facility has never been commissioned, retrocommissioning measures) for each such facility.

“(4) **IMPLEMENTATION OF IDENTIFIED ENERGY AND WATER EFFICIENCY MEASURES.**--Not later than 2 years after the completion of each evaluation under paragraph (3), each energy manager may--

“(A) implement any energy- or water-saving measure that the Federal agency identified in the evaluation conducted under paragraph (3) that is life cycle cost-effective; and

“(B) bundle individual measures of varying paybacks together into combined projects.

“(5) **FOLLOW-UP ON IMPLEMENTED MEASURES.**--For each measure implemented under paragraph (4), each energy manager shall ensure that--

“(A) equipment, including building and equipment controls, is fully commissioned at acceptance to be operating at design specifications;

“(B) a plan for appropriate operations, maintenance, and repair of the equipment is in place at acceptance and is followed;

“(C) equipment and system performance is measured during its entire life to ensure proper operations, maintenance, and repair; and

“(D) energy and water savings are measured and verified.

“(6) **GUIDELINES.**--

“(A) **IN GENERAL.**--The Secretary shall issue guidelines and necessary criteria that each Federal agency shall follow for implementation of--

“(i) paragraphs (2) and (3) not later than 180 days after the date of enactment of this subsection; and

“(ii) paragraphs (4) and (5) not later than 1 year after the date of enactment of this subsection.

“(B) **RELATIONSHIP TO FUNDING SOURCE.**--The guidelines issued by the Secretary under subparagraph (A) shall be appropriate and uniform for measures funded with each type of funding made available under paragraph (10), but may distinguish between different types of measures project size, and other criteria the Secretary determines are relevant.

“(7) **WEB-BASED CERTIFICATION.**--

“(A) **IN GENERAL.**--For each facility that meets the criteria established by the Secretary under paragraph (2)(B), the energy manager shall use the web-based tracking system under subparagraph (B) to certify compliance with the requirements for--

“(i) energy and water evaluations under paragraph (3);

“(ii) implementation of identified energy and water measures under paragraph (4); and

“(iii) follow-up on implemented measures under paragraph (5).

“(B) **DEPLOYMENT.**--

“(i) **IN GENERAL.**--Not later than 1 year after the date of enactment of this subsection, the Secretary shall develop and deploy a web-based tracking system required under this paragraph in a manner that tracks, at a minimum--

“(I) the covered facilities;

“(II) the status of meeting the requirements specified in subparagraph (A);

“(III) the estimated cost and savings for measures required to be implemented in a facility;

“(IV) the measured savings and persistence of savings for implemented measures; and

“(V) the benchmarking information disclosed under paragraph (8)(C).

“(ii) **EASE OF COMPLIANCE.**--The Secretary shall ensure that energy manager compliance with the requirements in this paragraph, to the maximum extent practicable--

“(I) can be accomplished with the use of streamlined procedures and templates that minimize the time demands on Federal employees; and

“(II) is coordinated with other applicable energy reporting requirements.

“(C) **AVAILABILITY.**--

“(i) **IN GENERAL.**--Subject to clause (ii), the Secretary shall make the web-based tracking system required under this paragraph available to Congress, other Federal agencies, and the public through the Internet.

“(ii) **EXEMPTIONS.**--At the request of a Federal agency, the Secretary may exempt specific data for specific facilities from disclosure under clause (i) for national security purposes.

“(8) **BENCHMARKING OF FEDERAL FACILITIES.**--

“(A) **IN GENERAL.**--The energy manager shall enter energy use data for each metered building that is (or is a part of) a facility that meets the criteria established by the Secretary under paragraph (2)(B) into a building energy use benchmarking system, such as the Energy Star Portfolio Manager.

“(B) **SYSTEM AND GUIDANCE.**--Not later than 1 year after the date of enactment of this subsection, the Secretary shall--

“(i) select or develop the building energy use benchmarking system required under this paragraph for each type of building; and

“(ii) issue guidance for use of the system.

“(C) **PUBLIC DISCLOSURE.**--Each energy manager shall post the information entered into, or generated by, a benchmarking system under this subsections, on the web-based tracking system under paragraph (7)(B). The energy manager shall update such information each year, and shall include in such reporting previous years' information to allow changes in building performance to be tracked over time.

“(9) **FEDERAL AGENCY SCORECARDS.**--

“(A) **IN GENERAL.**--The Director of the Office of Management and Budget shall issue semiannual scorecards for energy management activities carried out by each Federal agency that includes--

“(i) summaries of the status of implementing the various requirements of the agency and its energy managers under this subsection; and

“(ii) any other means of measuring performance that the Director considers appropriate.

“(B) **AVAILABILITY.**--The Director shall make the scorecards required under this paragraph available to Congress, other Federal agencies, and the public through the Internet.

“(10) **FUNDING AND IMPLEMENTATION.**--

“(A) **AUTHORIZATION OF APPROPRIATIONS.**--There are authorized to be appropriated such sums as are necessary to carry out this subsection.

“(B) **FUNDING OPTIONS.**--

“(i) **IN GENERAL.**--To carry out this subsection, a Federal agency may use any combination of--

“(I) appropriated funds made available under subparagraph (A); and

“(II) private financing otherwise authorized under Federal law, including financing available through energy savings performance contracts or utility energy service contracts.

“(ii) **COMBINED FUNDING FOR SAME MEASURE.**--A Federal agency may use any combination of appropriated funds and private financing described in clause (i) to carry out the same measure under this subsection.

“(C) **IMPLEMENTATION.**--Each Federal agency may implement the requirements under this subsection itself or may contract out performance of some or all of the requirements.

“(11) **RULE OF CONSTRUCTION.**--This subsection shall not be construed to require or to obviate any contractor savings guarantees.”.