



Learner's Guide

Energy Savings Performance Contracts (ESPCs)

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Seminar: Energy Savings Performance Contracts

Background on the FEMP First Thursday Seminars

The **First Thursday Seminars** are designed for Federal Energy Managers but are open to anyone whose scope of responsibility involves influencing decisions to increase energy efficiency, conserve water resources, and meet other Federal sustainability goals.

There are three ways to participate in the seminars.

1. Live streaming video available on the day of the event over the internet to a desktop computer or via a projection system in a conference room;
2. Digital and Analog Satellite downlink technology for group showings; and,
3. Archived streaming video available after the event over the Internet on a desktop computer or via a projection system in a conference room.

To learn more about accessing specific seminars, access <http://www.femp.energy.gov/firstthursday>.

Introduction

The seminar “Energy Savings Performance Contracts” is being offered live on Thursday, March 3, 2011 at 1:30 p.m. Eastern Time. For access and other course information, access: [the seminar’s landing page here](#).

The seminar is designed to give you up-to-date information on the value of ESPCs and how one might consider the use of these types of contracts for facility improvements and energy and water efficiency measures. The seminar will last 90 minutes.

Learner Objectives

After completing this seminar, the learner will be able to:

1. Explain the function and uses of an Energy Savings Performance Contract
2. Explain 3 benefits of using ESPCs
3. Explain the role of an ESCO
4. Explain key activities in determining if a project is a likely candidate for using an ESPC
5. List 5 Energy Conservation Measures (ECMs) that could be considered for an ESPC
6. Explain FEMP’s role in an ESPC
7. List the responsibilities of FEMP Financing Specialists and Project Facilitators

Asking Questions

At the end of the seminar, there will be an opportunity for you to ask questions. You will be able to email, fax, or ask questions by phone. You may email or fax your questions anytime during the broadcast. You will be able to speak “live” with the instructor at the end of the presentation. The phone, fax, and email information will be posted on the screen during the seminar.

During the live broadcast, ask questions by either:

- Dialing the toll free number 800-775-3728
- Faxing questions to 865-381-0554
- Or by sending an email to FTS@energyworkshops.org.

Upon Seminar Completion

Each participant who registers for the training via FEMP Central or who signs a Roster (at a satellite broadcast location) will be sent an email with a link to the seminar evaluation and the open book quiz. If you do not have a Roster, they are [available here](#). Please sign the Roster and scan/ email to ruleb@tds.net or Fax to 865-381-0554. Upon completion of the evaluation and the open book quiz, you will be able to print a course completion certificate for your records.

Additional Materials

The materials in this section support the learning in the presentation.

Resources for Your Use

Prior to attending this course, please spend 20 minutes reviewing the Department of Energy, Federal Energy Management Program (FEMP) website materials related to ESPCs at <http://www1.eere.energy.gov/femp/financing/espcs.html>.

The following resource provides an overview of ESPCs. http://www1.eere.energy.gov/femp/pdfs/espc_intro.pdf

A list of current ESCOs can be found at http://www1.eere.energy.gov/femp/financing/espcs_doeescos.html

Glossary of Terms

Combined heating and power (CHP) - Also referred to as cogeneration

In power systems, refers to use of steam for both power generation and heating. High-temperature, high-pressure steam from a boiler and superheater first passes through a turbine to produce power. It is exhausted at a temperature and pressure suitable for heating purposes, instead of being expanded in the turbine to the lowest possible pressure and then discharged to the condenser, which would waste the remaining energy in the steam. The steam at the higher pressure can provide large amounts of lower-temperature energy for heating buildings or evaporating brine in a chemical plant. Considerable overall energy savings can be obtained by cogeneration.

Competition in Contracting Act (CICA) - The Competition in Contracting Act of 1984 (CICA), 41 U.S.C. 253, revised the FAR to encourage competition for the award of all types of government contracts. The purpose was to increase the number of competitors and to increase savings through lower, more competitive pricing.

Contracting Officer (CO) - An individual who can bind the United States Government to a contract that is greater than the Micro-Purchase threshold.

Contracting Officer's Representative (COR) - Contracting officers may designate qualified personnel as their authorized representatives to assist in the technical monitoring or administration of a contract. This individual is referred to as a contracting officer's representative

Contract Officer's Technical Representative (COTR) - A Federal employee to whom a Contracting Officer has delegated authority in writing to act as his or her representative in monitoring specified aspects of contractor performance. These aspects may include ensuring that the contractor's performance meets the standards set forth in the contract, ensuring the contractor meets the technical requirements under the contract by the delivery date(s) and/or within the period of performance, and ensuring that the contractor performs within the price or estimated cost stated in the contract.

Distributed generation - Electricity generated from many small energy sources.

Energy audit - An inspection, survey and analysis of energy flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without negatively affecting the output(s).

Energy-conservation measure (ECM) - A building material or component whose use will affect the energy consumed for space heating, space cooling, domestic hot water or refrigeration.

Energy Escalation Rate Calculator (EERC) - Computes an average annual escalation rate for fuel prices from the annual energy price forecasts of the DOE Energy Information Administration. This rate can be used to escalate contract payments in Energy Savings Performance Contracts and Utility Energy Services Contracts when the payments are based on projected annual energy cost savings.

Energy management control system (EMCS) - The Energy Management Control System (EMCS) is a computer-based means for controlling and monitoring heating, ventilation, air-conditioning (HVAC), energy use, and lighting systems.

ESCO – A commercial business providing a broad range of comprehensive energy solutions including designs and implementation of energy savings projects, energy conservation, energy infrastructure outsourcing, power generation and energy supply, and risk management.

Energy savings performance contract (ESPC) - A contracting method in which the contractor provides capital to facilitate energy savings projects and maintains them in exchange for a portion of the energy savings generated.

Emerging technologies (ET) – Refers to contemporary advances and innovation in various fields of technology. Various converging technologies have emerged in the technological convergence of different systems evolving towards similar goals.

Federal Acquisition Streamlining Act (FASA) of 1994 - The Federal Acquisition Streamlining Act of 1994 (FASA) made a number of changes in the way goods and services at, or below, \$100,000 are acquired. The Act replaces the \$25,000 threshold with a new “Simplified Acquisition Threshold” (SAT) of \$100,000 once an agency (or procuring activity within the agency) have achieved certain electronic commerce (FACNET) capabilities, are using them and certify that they have met the criteria. Until that time, the threshold is only increased to \$50,000.

Federal Financing Specialist (FFS) - FEMP’s Federal financing specialists (FFSs) help agencies get started with energy savings performance contract (ESPC) projects.

Geothermal heat pump (GHP) - A geothermal heat pump, ground source heat pump (GSHP), or ground heat pump is a central heating and/or cooling system that pumps heat to or from the ground. It uses the earth as a heat source (in the winter) or a heat sink (in the summer). This design takes advantage of the moderate temperatures in the ground to boost efficiency and reduce the operational costs of heating and cooling systems, and may be combined with solar heating to form a geo-solar system with even greater efficiency.

High-temperature hot water (HTHW) - High-temperature hot-water systems have the hot water pumped from the generator throughout the distribution system. The circulator pumps are large enough to deliver the water at sufficient pressure to overcome any drop in the distribution system and the heat-consuming equipment. The major advantages of the HTHW heating system are makeup requirements, minimum maintenance, high thermal efficiency, and safe, easy operation and control.

Interagency agreement (IIA) - An interagency agreement is a document, generally between government agencies and departments, that defines cooperative work between the agencies. The agreement will define the parties involved, work performed and the transfer of technologies and funds.

Indefinite-delivery, indefinite-quantity (IDIQ) contract - This is a type of contract that provides for an indefinite quantity of supplies or services during a fixed period of time. The legal origin of IDIQ contracts is the Federal Acquisition Regulation (FAR), section 16.501(a).

Investment-grade audit (IGA) - a procedure which may include, but is not limited to, a detailed analysis of energy cost savings and energy unit savings potential, building conditions, energy consuming equipment, and hours of use or occupancy for the purpose of confirming or revising technical and price proposals based on the preliminary energy survey.

Independent government estimate (IGE) - An internal government document that tracks the government's appraisal and pricing of a task order.

Measurement and verification (M&V) - A process of using measurement to reliably determine actual savings created within an individual facility by an energy management, energy conservation or energy efficiency project or program. As savings cannot be directly measured, the savings can be determined by comparing measured use before and after implementation of a project, making appropriate adjustments for changes in conditions.

Preliminary energy survey - An inspection, survey and analysis of energy flows for energy conservation in a building, process, or system to reduce the amount of energy input into the system without negatively affecting the output(s).

Project facilitator - Assigned to each FEMP ESPC project, these specialists provide expert assistance to guide Federal agencies through the ESPC process.

Photovoltaics (PV) - A method of generating electrical power by converting solar radiation into direct current electricity using semiconductors that exhibit the photovoltaic effect. Photovoltaic power generation employs solar panels composed of a number of cells containing a photovoltaic material. Materials presently used for photovoltaics include monocrystalline silicon, polycrystalline silicon, amorphous silicon, cadmium telluride, and copper indium selenide/sulfide.

Task order - A task, delivery, or call order for supplies and/or services placed against an established contract, blanket purchase agreement (BPA), or basic ordering agreement.

Utility energy services contract (UESC) - A vehicle that a Federal agency and its utility can use to implement energy efficiency, water conservation, and renewable energy projects.