Federal Energy Management Program

Leading by example, saving energy and taxpayer dollars in federal facilities

Contracting for a Resource Efficiency Manager

A Federal Energy Management Program, Operations & Maintenance Center of Excellence Guidebook

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Acknowledgements

The Federal Energy Management Program, Operations & Maintenance Center of Excellence provided funding and direction for this guide. Included are contributions from some of the strongest advocates for the Resource Efficiency Manager program. Special recognition goes to Ab Ream, FEMP O&M Program Manager; and Dave Hunt and Bill Sandusky, both of the Pacific Northwest National Laboratory, for sharing their knowledge, experience and common sense.

We are also grateful to the following reviewers for their valuable comments and suggestions:

- Lisa Hollingsworth, U.S. Department of Energy, Southeast Regional Office
- Cheri Sayer, U.S. Department of Energy, Western Regional Office
- Ed Thibodo, Naval Facilities Engineering Command – Southwest Division
- Scott Wolf, U.S. Department of Energy, Western Regional Office

FEMP would like to thank the Washington State University Extension Energy Program for producing this publication. Participants were Karen Messmer, project manager; Gerry Rasmussen, graphic design; and Margaret Thomas, text development.

Contracting for a Resource Efficiency Manager

A Federal Energy Management Program, Operations & Maintenance Center of Excellence Guidebook

July 2004

DOE/EE-0299

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Table of Contents

Introduction

A *Resource Efficiency Manager* (REM) champions your agency's commitment to energy and environmental goals. As a result, your organization reduces environmental impacts, saves energy, improves energy security and saves money.

REMs focus on reducing the cost of energy, water, fuel, waste disposal and pollution prevention through improved practices, equipment modifications and consumer awareness. REMs work onsite at federal facilities to meet resource-efficiency objectives. They are contractors, rather than federal employees, and work with existing staff to enhance conservation efforts. A premise of the program is that savings cover the REM's salary. Typically, benefits far exceed that threshold expectation.

The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) sponsors the REM program. FEMP primarily is concerned with energy savings and this guide reflects that emphasis. Three arms of DOE – FEMP headquarters, the Western Regional Office, and the Pacific Northwest National Laboratory (PNNL) – collaborate in administering the REM program. The Washington State University (WSU) Extension Energy Program provides information and support necessary to maintain and expand the REM network.

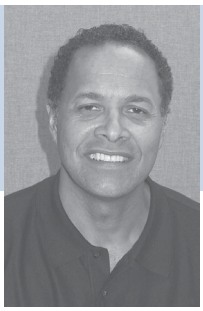
Resource efficiency management is a systematic, holistic approach to managing energy, water, environmental and financial resources, eliminating or minimizing waste and emissions to the environment on a sustainable and cost-effective basis.

Currently, REMs serve about 40 federal sites. Annual energy budgets for these sites 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.

Successful REMs are self-motivated people with the ability to motivate others. They work both independently and as members of the team. Skills include project financing, management, and results verification; procurement; and marketing. Most importantly, the REM is someone familiar with the agency's culture and structure, who has a working knowledge of day-to-day operations and maintenance practices, and focuses on practical, cost-effective and sustainable measures.

The purpose of this guide, however, is not to convince you to hire a REM. Rather, it is directed at those who seek practical guidance. This step-by-step guide walks you through the process – from making the decision to hire a REM, to drafting a contract, to gauging the REM's performance.

As the nation's largest energy user, the federal government has pledged to lead the way in environmental stewardship. A series of executive orders and federal mandates direct agency managers to improve performance through energy efficiency, recycling, pollution prevention and procurement. A REM can help turn these challenges into opportunities for savings, recognition and environmental benefits.



Charles Howell has served as REM at U.S. Army base Fort Lewis in Western Washington since 1997. Cumulative cost savings resulting from REM-led efforts at the base now exceed $4 million.

Charles Howell

Chapter One:
How do I know if I need a REM?

This chapter provides some tools for assessing your site or agency's energy performance to help you decide if hiring a Resource Efficiency Manager (REM) makes sense.

Assessing potential savings

Energy budgets tend to increase over time. Documentation shows this tendency can be mitigated with a full-time, on-site monitor, such as a REM. Based on a decade of experience with designated energy managers – first at schools and later federal facilities – we know you can conservatively expect to save 10 percent of what your site or agency spends on energy and other utilities within a year of hiring a full-time REM. Depending on what energy-saving measures already are in place, it's not uncommon to save 20 percent or more after hiring a REM.

So what is your energy budget? The elements that make up the budget vary between sites. Some have outsourced management of their utilities. For others, it may make sense to include transportation fuels. What your site spends on non-energy utilities should be included, since REMs also look for savings in these areas. To calculate your energy budget, consider including these basics:

- Electricity
- Electrical demand charges from the utility
- Fossil fuels
- Water
- Waste disposal
- Recycling

A REM may be responsible for a single site or for a combination of sites under one federal agency. If the energy budget at your site, or at several combined sites, falls in the range between $3 million to $5 million per year, a 10 percent savings will more than cover the cost of a REM's annual salary.

On the next page is a 20-question survey to help you assess your agency or site's energy planning and performance. If you answer *yes* to all of the survey questions, you may not be able to justify hiring a REM. But if your answer to several questions is *no*, hiring a REM may be the most cost effective way to improve energy performance.

Self-screening survey

1.	Does your facility have a full-time energy manager?	☐ Yes ☐ No
2.	Does your facility have a written energy management plan?	☐ Yes ☐ No
3.	Do you have a reliable, timely and accurate means of measuring energy performance?	☐ Yes ☐ No
4.	Are you on schedule for meeting your energy efficiency goals?	☐ Yes ☐ No
5.	Have you completed comprehensive energy audits at your facilities?	☐ Yes ☐ No
6.	Have you identified and prioritized your energy efficiency projects?	☐ Yes ☐ No
7.	Do you have an annual budget for energy efficiency projects?	☐ Yes ☐ No
8.	Have you installed significant energy efficiency projects already?	☐ Yes ☐ No
9.	Do you have a preventive maintenance program?	☐ Yes ☐ No
10.	Are you practicing reliability-centered maintenance?	☐ Yes ☐ No
11.	Do you have a recycling program?	☐ Yes ☐ No
12.	Do you regularly track and verify utility bills?	☐ Yes ☐ No
13.	Have you entered into any energy savings performance contracts?	☐ Yes ☐ Noo
14.	Has anyone onsite received an energy efficiency award?	☐ Yes ☐ No
15.	Have you completed any renewable energy projects?	☐ Yes ☐ No
16.	Do you have a peak electric load reduction program in place?	☐ Yes ☐ No
17.	Do you have an emergency or contingency plan for energy shortages, price spikes, brownouts or blackouts?	☐ Yes ☐ No
18.	Does your senior management support energy efficiency in general?	☐ Yes ☐ No
19.	Would your senior management support an alternatively financed full-time person?	☐ Yes ☐ No
20.	Does your contracting officer understand and support alternative methods of procuring energy efficiency?	☐ Yes ☐ No
	Totals	Yes: _____ No: _____

Organizational readiness

For a REM to succeed, there must be consensus within the organization about the need to make energy and resource savings a priority. A powerful motivator is Executive Order 13123 *Greening the Government through Efficient Energy Management*.[1] The executive order sets deadlines for federal agencies to ultimately reduce by about one third their energy consumption and greenhouse gas emissions. The order also mandates that federal agencies use less water and petroleum and increasingly rely on energy from renewable sources.

The commitment to reduce energy use, however, followed a decade of reductions in federal facility operations budgets, which cost many agencies their energy staff in addition to funding for energy-efficiency projects. Before deciding if you should have a REM, find out who is responsible for energy management and conservation in your organization. Possible candidates include the facilities manager, operations and maintenance personnel, or an energy services company working on contract.

Dig beyond titles to find out who is actually watching the energy meter. In some cases, agencies designate an "energy manager" who in reality has little time for more than filling out paperwork required by federal mandates. Do the people in charge of energy matters have the financial resources, top-level support and a willingness to make changes? REMs spend 100 percent of their time on energy issues and are motivated by the fact that their jobs are performance-based. Continued employment depends on finding enough savings to cover their annual salaries.

One obstacle to hiring a REM may be getting the finance office to provide up-front funding to sustain the position until energy and cost savings can be realized. Later in this guidebook you'll find information about specific funding strategies, but the initial hurdle is convincing other decision-makers that hiring a REM is a good idea. To assist, we have published a series of fact sheets and case studies. The following publications are available online at *www.energy.wsu.edu/projects/rem/rem.cfm*

Fact sheets

- *A Strategy for the 21st Century*
- *Blueprint for Successful Resource Efficiency Managers Program*
- *Funding a Resource Efficiency Managers Program*
- *Introduction to Resource Efficiency Managers*

Case studies

- *U.S. Postal Service, Central Florida*
- *Fort Lewis, Washington: A Resource Efficiency Manager, 1997-2001*
- *National Oceanic & Atmospheric Administration, 2001-2002*
- *Navy Region Northwest 1997-2001*

Getting help with your decision

A number of utilities and private companies provide REMs to federal agencies. These providers have a stake in helping you decide what the potential is for saving energy and other resources at your site. A conversation with one or more providers may yield the information you need to decide whether or not to proceed. A listing of the companies that provide these services is available through the U.S. General Services Administration (GSA). Information about how to contact these companies is covered in Chapter Three of this guide.

Your utility may also be willing to assist with your decision. Both electric and gas utilities have provided REMs to federal sites. Ask your utilities' *customer service representatives for federal agencies* how they can help.

Information and assistance available through the Federal Energy Management Program (FEMP) is covered in Chapter Three.

[1] See Executive Order 13123 online at *www.eere.energy.gov/femp/pdfs/eo13123.pdf*

The first REM at Navy Region Northwest had six months to find projects to offset $111,700 in program costs. Before the end of the trial period, he identified more than $300,000 in savings and his position was renewed for a full year.

Navy Region Northwest case study, WSU Energy Program

Chapter Two:
What does it cost to hire an REM?

Cost

The cost of a one-year contract for a Resource Efficiency Manager (REM) ranges from about $100,000 to $200,000. The exact cost depends on many things, such as the size of the site and what kinds of equipment, services and staff expertise the contracting company provides to support the REM's work.

In general, REMs get paid the local market rate for a semi-technical, skilled contractor. On the federal General Schedule, the REM fits somewhere in the Grade 11 to Grade 13 range. To find out what salaries correspond to this grade range in your area consult the current General Schedule Locality Pay Tables. [2]

Benefits

REMs work on contract with the understanding that they must generate enough cost savings and other benefits to pay for their next period of employment. The position is *performance-based*, a relatively new approach in the federal sector. The primary outcome is lower energy costs achieved by:

- Reducing use of energy, water, solid and liquid waste;
- Acquiring funding to offset planned expenditures;[3]
- Identifying more energy-efficient equipment, and assisting with procurement;
- Identifying water-conserving equipment, and assisting with procurement;
- Finding utility billing errors;
- Identifying more favorable utility rates;
- Running successful energy and water conservation awareness programs; and,
- Identifying and implementing more efficient operation and maintenance procedures.

The REM's work results in:

- Enhanced energy security and reliability;
- Improved lighting and comfort;
- Relief from budget problems;
- Identification of funding for new equipment and controls;
- Reduced maintenance costs;
- Improved power quality; and,
- Improved utility services.

---

[2] The federal Office of Personnel Management provides current General Schedule locality pay tables online at *www.opm.gov/oca/04tables/indexGS.asp*

[3] REMs can apply for energy project funds through FEMP, utilities, and energy savings performance contracts.

REMs generally look for projects with a simple payback of zero to three years. They also have been instrumental in spearheading long-term projects that enhance energy infrastructure at the site. The typical benefit-to-cost ratio of hiring a REM is approximately 3.5-to-1. That means for every dollar spent on the REM contract, $3.50 is saved.

Funding options

One of the hurdles in hiring a REM is finding upfront funding to support the position until anticipated cost savings can offset the REM's salary. Within the federal sector, REM positions typically are financed in the following ways:

Direct appropriation of agency funds is the quickest way to hire a REM at your site. About half of all REM positions are funded this way, often from the agency's utility budget. This method is especially attractive to agencies that have available funds but are under government hiring restrictions. REMs work on contracts and are not considered regular federal employees. The U.S. Navy (USN) and the National Oceanic and Atmospheric Administration (NOAA) have used the direct appropriation approach, adding the cost for REM contractors as line items in their annual budget proposals.

Cost savings from ongoing alternatively financed projects are a good funding option for large sites with many facilities that use energy savings performance contracts, agreements between an agency and an energy services company. The agency uses energy cost savings generated by the projects to reimburse the energy services company (ESCO) and pay off the loans. Savings beyond the contract and loan amounts can be used to cover a REM's first-year contract. The cost savings method is related to the direct appropriation route, since resulting funds are used to contract with an approved REM provider through the U.S. General Services Administration (GSA).

Alternative financing through a utility is another way to get a REM. About 20 percent of REMs are funded this way. Several investor-owned utilities, including Puget Sound Energy and San Diego Gas & Electric, have funded REM positions. Depending on the customer's preference, the utility designates one of its employees or a subcontractor as REM for the site. Typically, the utility tacks a monthly or quarterly fee for the service onto the agency's utility bill.

The deal usually works something like this: If savings identified over a specified initial period – usually about three months – do not justify renewal of the REM contract, the utility forgives the debt. If the work is fruitful, the agency repays the utility over a 12-month period. REMs provided by a utility usually know the site well and have a technical background. From a procurement standpoint, paying for the REM incrementally through the utility bill may be simpler than contracting with another provider for the services. Agencies should think creatively and make proposals to their utility companies.

The Bonneville Power Administration,[4] part of the U.S. Department of Energy (DOE), has some unique procurement and borrowing authorities. Bonneville may be able to help you hire a REM in one of the following ways: Agencies sometimes transfer funds to Bonneville, which then contracts with a provider, or selects from the GSA's list of approved companies. Bonneville can also finance the cost of a REM. Typically, Bonneville provides three-year funding, with a five-year payback period on the principle and interest. Again, Bonneville contracts with the provider.

[4] Contact information for Bonneville Power Administration energy efficiency representatives is online at *www.bpa.gov/Energy/N/about_ee/contacts/*

Grants and incentives can be used to offset the REM's contract costs. REMs working at Navy Region Southwest sites have been able to generate 40 percent of their contract costs through grants and incentives, according to the service provider. Grants may be available through a utility- or state-run *public purpose program*. In some states, utilities attach a surcharge to their customers' bills to fund a public purpose program, which then provides energy-efficiency grants.

Getting a grant requires persistence, patience and creativity. For leads, contact your state energy office,[5] federal and state environmental agencies, and the customer service representatives at your utilities. If your agency has a headquarters office, talk to the energy manager there for more funding ideas.

The Federal Energy Management Program (FEMP) sponsors a web site that lists state energy management programs, including public purpose programs and utility energy efficiency programs. To see what's available in your state, visit the web site at *http://pnnl-utilityrestructuring.pnl.gov/energymanagement/energymanagement.htm*

[5] The National Association of State Energy Officials provides contact information for state energy offices online at www.naseo.org/members/states.htm

"Our REM, John Nixon, is a former Navy lieutenant commander with over ten years of engineering experience working for an energy service company. He was ready to start saving for us the day he walked in the door."
Utilities Director Lee Merrill, Navy Public Works Center Jacksonville, Florida

John Nixon

Chapter Three:
How do I hire a REM?

Getting Started

The Federal Energy Management Program's Resource Efficiency Manager Team can guide you through the contracting process by:

- Helping to determine which contracting mechanism best fits your needs;
- Providing advisory support to agency staff on legal, technical, financial and contractual issues;
- Directing you to user-friendly guidance documents;
- Reviewing scopes of work, requests for proposals, and task or delivery orders.

To find out more about how the FEMP REM Team can help, contact:

Ab Ream, **Program Manager**, **FEMP Operations & Maintenance**, at 202-586-7230 (Eastern Standard Time), or send e-mail to *ab.ream@ee.doe.gov*

Dave Hunt, **Pacific Northwest National Laboratory**, at 202-646-7867 (Eastern Standard Time), or send e-mail to *dave.hunt@pnl.gov*

Your utility companies may have experience in contracting for REMs. It's worth a call to see what kind of advice or assistance they can offer. The Bonneville Power Administration also has helped with financing and contracting for REMs.

Private companies that offer REM services may also be willing to discuss the contracting process. A current list of companies offering REM services is available through the U.S. General Services Administration (GSA).[6] Some of the companies on the list will have extensive experiences providing REMs to federal agencies, others may have little or no expertise in this area. Be sure to ask if the company has provided REMs in the past.

You may also want to contact agencies that already have REMs. To find out which federal sites currently have REMs, visit the WSU Energy Program's web site at *www.energy.wsu.edu/projects/rem/rem.cfm*

[6] U.S. General Services Administration Schedule 871 II Energy Management Services, including a list of approved contractors, is online at *http://216.64.206.176/ElibMain/SinDetails?executeQuery=YES&scheduleNumber=871+II&flag=&filter=&specialItemNumber=871+201*

The ideal REM

Deciding what you want in a REM is one of the first steps in the contracting process. It is important that the REM be able to develop a thorough understanding of your agency's culture and operations. A REM should be:

- Accomplished in the technical areas of energy efficiency, water conservation, and/or resource management;
- Innovative, while applying proven practices and technologies;
- Skilled in data collection, analysis and presentation;
- Able to think systematically and holistically, implementing long-term changes and not just one-time fixes;
- An excellent marketer and communicator.

The REM's job is to support the agency's mission, rather than dictating changes that may be intrusive or impact safety, health or morale. For a list of specific REM qualifications you may want to consider, see the sample position description in Appendix A of this guidebook.

A few things about the REM contract

Statement of work

You may find that your agency's contracting officer is unfamiliar with REM services. You can help by providing general information about REMs, any preferences you have for specific contractors, and a *statement of work*.

The statement of work describes what is to be done, rather than how it will be done or how many hours it will take. Task performance must be easy to assess and preferably measurable. The contracting officer will use the statement of work as part of a request for proposals. The GSA requires a statement of work as part of the REM contracting process, which is described later in this chapter. The GSA requirement reads as follows:

> A statement of work (a performance-based statement of work is preferred) that outlines, at a minimum, the work to be performed, location of work, period of performance, deliverable schedule, applicable standards, acceptance criteria, and any special requirements (i.e., security clearances, travel, special knowledge, etc.) should be prepared.

Two sample statements of work are available in Appendix B of this guidebook.

Deliverables

The products you want the REM to deliver can be mentioned in the statement of work or the request for proposals. After negotiation with the successful bidder, deliverables should be clearly defined in the contract.

Deliverables can be divided into three categories: *program deliverables*, *project deliverables*, and *awareness deliverables*. Examples of deliverables you may want to consider under each category are listed below:

Program Deliverables:

- Develop an energy master plan
- Develop a metering program
- Perform utility billing audits
- Establish an energy account database
- Develop and maintain energy program reports
- Provide planning support for the energy budget
- Provide a REM program status report

Project deliverables

- Identify and develop low-cost and no-cost energy efficiency opportunities
- Provide operational support for energy management control system
- Develop/assist in project identification and justification
- Develop projects for utility energy service contracts and energy savings performance contracts
- Monitor facility energy projects
- Provide peak load management

Awareness deliverables

- Coordinate energy efficiency meetings
- Manage an energy awareness program
- Prepare annual energy reports
- Establish and support an awards program recognizing energy efficiency efforts
- Develop and distribute energy articles, newsletters, notices, posters and signs
- Coordinate Energy Awareness Week/Month

Non-personal versus personal services

REM contracts are for *non-personal services*. The difference between a personal and a non-personal service is mainly a matter of supervision. A personal services contract implies that the government agency exercises the same control and supervision of the contractor as it does over its regular employees. A non-personal services contract establishes that the person performing the service is not under the agency's control and supervision.

This is an important distinction because personal service contracts require special authorization. Companies bidding on the REM contract may include the name and qualifications of a particular person in their proposals, but the final contract should describe the services to be provided, and not an individual.

Contract Types

There are four major contract types to consider:

1. GSA Federal Supply Service contracts;
2. Utility energy service contracts (UESCs);
3. Basic ordering agreements (BOAs), and;
4. Stand-alone contracts.

The method you choose depends to a large degree on whether or not your agency has upfront funding to hire a REM. If you have available funding, the GSA contract maybe the fastest and easiest way to hire a REM. The GSA schedule serves as a template and helps ensure that the contract conforms to federal acquisition regulations. It comes with a list of pre-approved contractors from which to choose.

If your agency needs financing, you will most likely want to work with a utility using a utility energy service contract or a basic ordering agreement.

A stand-alone contract is the vehicle of last resort, since it requires the most effort.

Which contract types make sense for your site?

Scenarios	*GSA*	*UESC*	*BOA*	*Stand Alone*
Appropriated funds are available.	■	■	■	■
Appropriated funds are available and the agency wants to contract with non-utility companies not on the GSA schedule.			■	■
Appropriated funds are available and the agency anticipates need for more than one REM over a five-year period.		■	■	
Appropriated funds are available and an areawide contract is in place.	■			
Appropriated funds are not available and there is an areawide contract in place.		■		
Appropriated funds are not available and no areawide contract is in place.		■		

GSA Federal Supply Service contracts

Only a contracting officer can use the GSA Schedule to place an order for REM services. If your agency does not have a contracting officer a GSA contracting officer may be able to place the order.

The federal supply schedule makes it easy to purchase commercial services. GSA contracts are governed by the Federal Acquisition Regulation (see FAR 8.4 *Federal Supply Schedules*[7]) and the Defense Federal Acquisition Regulation Supplement (DFARS). The FAR codifies uniform policies for acquiring supplies and services through federal executive agencies. The DFARS applies when the U.S. Department of Defense (DOD), or other agencies placing orders on DOD's behalf, request services worth more than $100,000. By contracting through the GSA schedule, agencies comply with both of these regulations.

Under each schedule, the GSA provides a list of approved contractors. The GSA has determined that contractors on the list charge prices that are fair and reasonable for the services requested.

[7] FAR 8.4 Federal Supply Schedules is online at *www.arnet.gov/far/current/html/Subpart%208_4.html*

The GSA schedule for hiring a REM is the Energy Management Services Multiple Award Schedule 871 II, Special Item Number (SIN) 871-201 *Energy Audit Services*.[8] This schedule covers energy audits, resource efficiency management, use of alternative energy sources, and building commissioning. The SIN description reads in part:

> Resource Efficiency Management (REM) – provide information on possible steps that will improve energy efficiency. This information shall include estimates of cost savings and environmental benefits. This includes onsite analysis of current operations, equipment, and energy purchasing patterns. This may include the services of a resource efficiency advocate for individual or aggregated building(s) in order to maximize resource efficiency.

To order services through the GSA schedule:[9]

1. **Prepare a request** (known as a *request for quote* or *request for proposal*). The request should include a statement of work and ask contractors to submit a *firm-fixed price*. The price is a bottom-line figure that includes travel costs and other direct costs related to performance of the requested services.

   The request may ask contractors for a project plan and information about their past experience performing similar tasks. The request must inform contractors about how the information they supply will be used in making a selection. That is, what basis will be used for deciding whether contractors are technically qualified.

2. **Send the request to contractors.** The ordering office should consider the scope of services offered by GSA approved contractors, pricing and other factors such as the contractors' location and submit the request to at least three contractors, plus any others who specifically ask for a copy.

3. **Evaluate responses and select a contractor.** You need not select the lowest bidder. Instead, your agency should choose the contractor that offers the *best value*. In determining best value, FAR 8.404 allows requestors to consider, among other things:
   - "Special features of the supply or service required for effective program performance;"
   - "Past performance," and;
   - "Environmental and energy efficiency considerations."

   The contracting officer should document how the determination of best value was made, in case questions arise.

For more information about Energy Management Services contracting, contact the GSA at:

Management Services Center
Phone: 800-241-7246
Email: *mgmtservices@gsa.gov*

Utility energy service contracts

Utility energy service contracts are a means to tap regulated electric and gas utilities as a source of funding for energy projects at federal facilities. UESCs are exempt from federal competitive bidding requirements. That means your agency can submit a statement of work and request a proposal from gas and electric utilities that serve your site. If the site is served by more than one utility, the agency should request competitive bids, though utilities are not obligated to respond. Utilities may subcontract for the REM services or provide one of their own employees to the requesting agency.

---

[8] U.S. General Services Administration Schedule 871 II Energy Management Services is online at *http://216.64.206.176/ElibMain/SinDetails?executeQuery=YES&scheduleNumber=871+II&flag=&filter=&specialItemNumber=871+201*

[9] This information was excerpted from a more detailed explanation of the ordering process on the GSA's web site: *www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=8131*

An easy mechanism for contracting with a utility for REM services is the *GSA Areawide Contract*, a master agreement between the federal government and a utility to cover a range of utility service for federal agencies in the utility's service area for up to ten years. Most federal sites have areawide contracts for procurement of energy from utilities that serve their area. Exemptions include sites that purchase power directly from a federal power marketing agency, such as the Bonneville Power Administration or the Western Area Power Authority.

Federal agencies use the areawide contract by completing an *Energy Management Services Authorization*, an attachment to the master contract that details the specific service to be provided to the ordering agency. Because the contract terms and conditions are already established, the GSA areawide contract may be easier to use than other contracting methods.

The GSA maintains a list of utilities with areawide contracts online, and has posted information on how to use the contracts.[10] For details, see the GSA publications titled *Utility Areawide Guide* and *Procuring Energy Management Services with the Utility Areawide Contract*. For more information visit the GSA *Energy and Water Conservation* web page at: *www.gsa.gov/energy*

The basic ordering agreement

If there is no GSA areawide contract in place for your utility, a *basic ordering agreement* can be used to issue multiple orders for REMs over a five-year period. A basic ordering agreement can be used to order REM services competitively through private companies, or sole source through the servicing utility.

The agreement is a written instrument of understanding, negotiated between an agency and a contractor, which contains terms that will apply to future orders between the parties for a specified term; a description of services to be provided; and the methods for pricing, issuing and delivering future orders.

The agreement can be used to expedite contracting when specific quantities are needed and prices are unknown, but the agency anticipates the need for substantial quantities of a product or service from the contractor. Under the right circumstances, the basic ordering agreement can save time and effort. The advantage of the BOA is that, once awarded, it is easy to procure additional REM services under the same agreement.

A basic ordering agreement is not a contract. To use the agreement, the ordering agency completes and signs a delivery order, Form 1155 *Order for Supplies or Services*.[11] Submitting and signing this form officially awards the order to a contractor. A sample contract delivery for REM services is available online at *www.energy.wsu.edu/projects/rem/rem.cfm*

The stand-alone contract

A stand-alone contract is a mutually binding legal relationship obligating the seller to furnish the services and the buyer to pay for them. The contract must go out for competitive bidding and is for one-time procurement of services.

The stand-alone contract is best for unique situations when, for one reason or another, an agency does not want to contract with a utility or one of the GSA approved companies. The agency's contracting officer must make this a non-personal services contract that complies with all federal acquisition regulations.

[10] A list of GSA areawide contracts by utility and publications on how to use the contracts are online at *www.gsa.gov/Portal/gsa/ep/programView.do?pageTypeId=8195&programId=8367& channelId=-13908*

[11] A sample Form 1155 *Order for Supplies and Services* is online at *www.dior.whs.mil/forms/DD1155.PDF*

Length of the contract

REM contracts are typically one year long with an option to renew for two or three years. The renewal option allows the agency to keep the REM on without going through the complete contracting process every year. Exercising the option is usually a simple matter for the contracting officer.

What are the provider's responsibilities?

Once a contractor is selected, negotiations between the agency and the contractor can begin. Agency representatives, including the contracting officer, meet with the selected contractor to work out details such as who will provide equipment and administrative assistance. Typically, the host agency provides office space, office furniture, a computer, a phone, basic office supplies, e-mail and Internet access. The host agency is responsible for ensuring that the REM has access to top management, and for verifying the REM's reported savings.

The contract should specify how the REM's effectiveness will be measured and by whom. The contractor is generally responsible for submitting a monthly report including any measurements of savings. The REM's success as an advisor and revenue generator should also be included in any performance assessment.

What if it doesn't work out?

Open communication between the host agency and the contractor normally results in the resolution of problems before the point of contract termination. Because the contract is performance based and the REM is expected to submit regular reports, the agency will know early on if the arrangement is effective. If there is no evidence of identified or realized savings within a reasonable period of time – say six months – the agency can cancel the contract without penalty or liability.

An estimated 85 percent of federal REM contracts are renewed at the end of the initial contract period. In most instances where contracts were not renewed, the REMs' performance was not the deciding factor. In one case, the REM was called to active military duty before completing the contract. In another case, the host agency hired the REM as a full-time employee. Some REMs have now been with their original contracting agency for more than six years.

How will the REM fit into the organization?

On an organizational chart, REMs generally fit into a department that is facilities or utilities related and responsible for energy management. Usually, they are part of the public works team, specifically the planning, engineering or environmental division. The REM reports to the department head and sometimes the contracting office, too. The most effective arrangements call for the REM to report directly to top management periodically. The REM is expected to perform independently while keeping those in charge informed about the workload and any issues that arise.

What if there is a maintenance and operations contractor on site?

It is the REM's job to collaborate with and support existing operations and maintenance personnel – whether they are members of the agency staff or other contractors. The REM should work closely with operations and maintenance personnel on energy-related jobs and activities, providing guidance on equipment purchases or adjustments, recommending new operating procedures, or making policy recommendations. The REM's work should dovetail with that of others on the site and always reflect the agency's priorities.

Facility managers have many high-priority missions, such as general operations and ensuring the comfort of occupants. Many don't have the time or resources they would like to devote to energy efficiency. The REM can fill the gap. Among other things, the REM focuses on human behavioral and awareness aspects of energy efficiency, which can yield significant savings and often are not part of anyone else's job description.

"You cannot manage what you do not measure."
Jack Welch, former chief executive officer, General Electric

Chapter Four:
How do I measure the REM's performance?

A foundation of the Resource Efficiency Manager (REM) program is the understanding that REMs will identify enough savings to cover the cost of their annual contracts. In practice, there is wide variation in how the REM's performance is evaluated.

Before hiring a REM, you should decide how rigorous your agency intends to be in quantifying energy and dollar savings. The hiring agency needs evidence that the REM has produced the promised savings, however some activities are difficult to quantify. The more precise the methods used the more expensive and time-consuming savings verification becomes. The challenge is to balance the cost of accounting with the value of the conservation activity.

Another factor to consider when deciding how you will evaluate the REM's performance is the price of natural gas and electricity at your site. Energy savings activities are much easier to justify economically when electricity is 10 cents per kilowatt-hour than when it is only 3 cents per kilowatt-hour.

In general, savings are calculated by comparing energy use before and after the implementation of energy saving measures. Adjustments should be made for changes – such as weather or building occupancy – that might cause increases or decreases in energy use that are unrelated to efficiency measures.

As part of contract negotiations, the host agency and the contractor should agree to a schedule and method for reporting the REM's progress. As a starting point, consider asking the contractor for a written proposal outlining how performance will be measured and reported.

Tailoring reporting to your site's needs

Reporting procedures range from monthly progress reports that show precise energy and dollar savings by project or activity, to simple weekly narratives that detail the REM's activities. For sample reports, see Appendix C of this guide.

Whatever the interim reporting requirements, REMs generally are expected to provide an annual quantitative accounting of the energy and dollars saved as a result of their activities. Quantitative measures typically include:

- Annual cost savings;
- Annual resource savings;
- Grants, incentives and other funding secured by the REM;

- Return on investment;
- Avoided costs (such as billing errors caught, or lower rates negotiated), or;
- Net present value of life cycle savings.

These figures are derived in a variety of ways depending on the agency's needs and what kind of *energy information system* already is in place. An energy information system is a process for recording and tracking energy use and calculating costs. For example, some facilities are sub-metered, making it easy to collect data. Most are not. Among the REM's objectives may be establishing an energy-use baseline or finding funding to improve the quality of data available. Ultimately, the data collected can also be used to meet other agency objectives, such as planning future energy projects or demonstrating progress toward efficiency goals.

So how do REMs actually calculate energy and cost savings? Following are three anecdotal examples of the methods used by experienced REMs at federal sites:

REM One works for the public works center (PWC) at a naval air station. He submits a monthly narrative report to the company he works for, the PWC utilities department head and the PWC energy manager. His last report of the year includes an *Annual Summary of REM Facilitated Savings*.

REM One uses a Navy life cycle cost analysis workbook to determine a dollar value for savings from energy projects. The workbook details methods for evaluating *net present value* (NPV) for the life of energy projects. Net present value is a standard accounting method for determining the present value of an investment's future net cash flows minus the initial investment.

For example, if the Navy uses 15 years as the life of a lighting system. REM One calculates the NPV of the annual savings for the 15-year life of the system and the NPV of the payments to the financier. (Energy projects at the air station are done through utility energy savings contracts.) He then subtracts the payment from the savings to determine the amount of savings facilitated by the REM for the project.

REM One bases energy savings from retrofit projects on estimated savings. Again using a simple lighting project as an illustration, estimated savings are determined by comparing the amount of energy consumed by existing lighting fixtures to the expected energy consumption of replacement fixtures.

REM One uses sub-metering data to help identify viable energy projects. For reporting purposes, he assigns no dollar value to energy awareness activities, such as the trainings he conducts. Instead, he considers these activities "fishing expeditions," a chance not only to change behavior but to interact with others who might know about energy savings opportunities he's missed.

REM Two works for the public works planning division at an Army base. Using data from the post's electric sub-meters and from local utilities, he analyzes and reports consumption figures and energy costs to public works personnel monthly using Utility Manager Prop, software from Save More Resources, Inc. For reporting to the Army and the U.S. Department of Defense (DOD), he uses a DOD reporting tool called the *Defense Utility & Energy Reporting System*.

To determine project savings, REM Two calculates simple pay back, or the net present value of life cycle costs. For some retrofit projects, he develops spreadsheets for comparing before and after energy consumption and costs, plus other benefits such as maintenance savings and emissions reductions.

To determine annual savings, REM Two calculates British Thermal Units (BTUs) saved and converts that figure to dollars. Actual energy savings account for about half of the dollar value he brings to the base, which also includes grants, in kind support for special projects, and cost avoidance. For example, REM Two monitors utility bills, including a natural gas bill that covers more than 300 accounts. In one two-month period a few years ago, he identified $79,600 in utility billing errors.

REM Three works for the public works department at a naval air station. The Navy looks for a ten-year payback on energy projects, and REM Three's contract reflects the same expectation. Under the heading Evaluation Criteria, the contract calls for a ten-year payback on the REM's salary, according to the following equation:

$$\frac{\text{The sum of identified estimated projects costs + REM costs for Year 1}}{\text{Estimated project savings}} < 10 \text{ years simple payback}$$

REM Three writes a weekly "situation report," a non-technical narrative – no longer than one page – that is widely distributed by e-mail. He also submits a monthly report to the Navy's regional office, and briefs the air station's commanding officer annually on his progress.

For his monthly reports, REM Three enters meter data, fuel oil reports and utilities billings into the Utility Management System, a software program that provides a breakdown of usage, trends and historical data.

On the job for six years, REM Three maintains an ongoing spreadsheet of energy projects and activities, including, where possible, energy savings in BTUs and dollar figures for actual cost savings, potential cost savings and cost avoidance. He uses the spreadsheet to generate a number of reports, included the air station's annual energy report to the secretary of the Navy.

Savings from some REM activities are difficult to quantify. Energy awareness activities aimed at changing human behavior are a good example. These activities might include:

- Establishing an energy awareness program;
- Developing a building energy management team;
- Initiating a utility demand reduction program;
- Attending training courses; or,
- Writing a column for a newsletter or other publication.

REM Three *does* assign a value to his energy awareness activities. While the Navy generally attributes 10 percent of energy savings to awareness activities, the REM provider and the host agency agreed to assign a more-conservative 5 percent of total energy savings.

In addition to tracking savings from projects and awareness activities, REMs typically monitor building energy performance. They know that building operations and maintenance (O&M) practices offer low- and no-cost opportunities for reducing energy consumption, such as:

- Using energy and management control systems properly;
- Limiting system overrides;
- Periodically readjusting temperature settings;
- Reviewing equipment operating hours, and;
- Repairing dampers and economizers.

The REM's real value to the agency cannot be measured in kilowatt-hours or therms alone. In many cases, REMs bring to the agency thousands or even millions of dollars

in outside funding for energy projects. In addition, they serve as valuable advisors. In an article in the May 2004 edition of *Energy User News*,[12] an army contractor describes the REM's role at an Army fort:

> *In addition to helping us save operating costs, she serves as an independent third-party advisor for our performance contracts. In this role, she has helped us tremendously by explaining just how our energy savings should be measured and verified so we can see if we're actually achieving the cost savings that our contractors have projected.*

The real value of a REM includes the support and funding they bring to the agency as well as the energy and resources they save.

[12] *Making Sure Things are Done Right*, by Steve Sain; Energy User News, May 2004, p. 8; *www.energyusernews.com/CDA/Article_Information/Fundamentals_Item/0,2637,124306,00.html*

Appendix A:
Sample Position Description

Position(s):

TITLE

Resource Efficiency Manager (REM). This is a (position classification) position on a (number of years) renewable contract.

PURPOSE

One Resource Efficiency Manager position to be filled at a Department of Defense installation. The REM's role will be to reduce operating costs by improving the way the base uses and consumes resources (i.e. water, natural gas, oil, electricity, and solid waste). Basic REM responsibilities include: 1) Monitoring the installation's use of resources, 2) analyzing that use, and 3) making adjustments to improve resource use while continuing to promote conservation efforts.

With the support of the local utility, a performance contractor, and upper management at the facility, energy efficiency projects may already be effectively installed at DOD installations. The REM's efforts focus on the behavioral and building operations issues. To this end, the REM will need to involve many groups employed and living at the base by motivating and educating them with regard to the efficient use of resources.

GENERAL RESPONSIBILITIES

May include any or all of the following:

1. Use energy accounting software or spreadsheets to monitor the actual quantity and cost of fuels such as electricity, natural gas, and fossil fuel, as well as the amount of water used and volume of garbage disposed on a monthly basis. Distribute and provide monthly and quarterly reports to various base groups.
2. Compile data, investigate problems, discuss ideas and report results.
3. Work with building occupants to enthuse, support and gain cooperation.
4. Gain personal knowledge of the operation of the various facilities and industrial processes on base.
5. Educate occupants on efficient operation of buildings.
6. Build a network and establish working rapport with people who will be instrumental in supporting the program.
7. Work with on-site teams to set goals.
8. Promote and publicize the program.
9. Develop policies for resource conservation and management.
10. Perform and train others to do operations surveys to evaluate how resources are used and identify opportunities for conservation and efficiency improvement.
11. Develop and implement procedures to recycle material from the waste stream.

12. Develop procurement policies that reduce the amount of solid waste.
13. Establish, develop and implement monthly forums to building monitors and maintenance staff.
14. Establish lines of communication (including a monthly newsletter) to become a primary point of contact for technical assistance to various on-site groups.

REQUIRED QUALIFICATIONS

1. Bachelor's Degree.
2. Ability to work independently and in a team.
3. Good oral and written communications skills.
4. Computer skills in spreadsheets and work processing applications.
5. Experience presenting technical information to residential and commercial audiences through a variety of media.
6. Ability to apply energy related training information, methodologies, and technologies in the field to demon strate effective application.

DESIRABLE QUALIFICATIONS

1. Five years of progressively responsible experience in energy management or heating, ventilating and air-conditioning (HVAC) industry lead work and project management responsibilities.
2. Previous experience in operations at Department of Defense installations.
3. Experience in marketing and public outreach.
4. Technical writing, data analysis, information research skills and use of computer software tools in the development of graphics, and various presentation materials.
5. Experience in application of computer software programs used in energy and resource accounting.
6. Previous experience providing training.

TO APPLY

Submit (appropriate number of) copies of the following items:

Letter of interest with detailed description of experience(s) related to the above numbered qualifications by listing the employer, number of months in each position as it relates to the qualifications; vitae, transcripts, and minimum of three employment references (supervisor, peer, and subordinate) which includes current telephone numbers; one page example of your writing.

Send applications to (your Personnel Office or appropriate party). All application materials must be received by (time and date).

Accommodations for applicants who qualify under the Americans With Disabilities Act are available upon request.

Appendix B:
Statement of Work

SAMPLE ONE

STATEMENT OF WORK

1. A Resource Efficiency Manager (REM) is an energy technical professional sited at a federal facility charged with reducing the consumption of resources such as natural gas, electricity, water, and fuel oil; and reducing the generation of waste water and solid waste. Other savings are expected in identifying utility billing errors, recommending rate schedule changes and reducing utility bill late charges. The REM shall work in cooperation with existing energy and engineering staff to focus on four essential areas: *Resource accounting and sub-metering; energy policies and incentive programs; building energy monitor programs (BEMs); and installation or facility-wide training and promotion of energy conservation activities*. The REM will purchase marketing materials to promote energy efficiency awareness. These items include T-shirts, hats and pens, educational brochures and/or other printed material.

Work to be Performed:

a) 15% In Support of Utility Meter Reading & Analysis: On a monthly basis, the REM shall download and analyze data from local utilities and report the findings to appropriate Army personnel. The data will be analyzed to confirm consumption data to design conversation strategies.

b) 15% Resource/Energy Accounting: The REM shall use energy accounting software and spreadsheets to maintain a current database of energy consumption at [NAME SITE]. The REM shall monitor the cost and consumption of electricity, natural gas, and fossil fuel on a monthly basis at the regional level. The REM shall distribute and provide reports to designated points of contract.

c) 10% Energy Awareness Training & Marketing: The REM shall prepare training materials for monthly energy awareness seminars. The REM shall also develop brochures, conservation tips, and related material on energy. And develop and design resources conservation measures using computer presentation equipment, overhead transparencies, slide presentations, and hands-on demonstrations.

d) 5% On-site Conservation Support: The REM shall provide onsite support to energy officers, noncommissioned officers, and building energy personnel.

e) 10% In support of Program & Policy Development: The REM shall develop and design incentive programs to motivate customers to reduce resource consumption. The REM shall review water management policies and procedures, maintain the current consumption database, and report to participating military units. The REM shall serve as a member of various teams such as [TEAM NAMES].

f) 10% Energy Audits & IG Inspector General Inspections: The REM shall provide energy audits and IG inspections on request.

g) Provide Recommendations: The REM shall provide recommendations on energy efficiency improvements and projects, assist in project package preparation, and provide energy analysis using spreadsheets and energy accounting software to document energy savings for proposed energy efficiency measures.

h) 5% Energy Manager Support: The REM shall provide logistical support to public works staff, management and unit commanders.

i) 5% Additional Training Duties: The REM shall train customers to conduct energy audits and surveys; to evaluate the way resources are used; and to identify opportunities for conservation and efficiency improvement. The REM shall review renovation and new construction project designs for energy efficiency criteria.

j) 5% Technical Assistance & Information Clearinghouse: The REM shall write articles and become the primary point of contact for technical assistance to various groups, including the U.S. Department of Defense and other federal agencies. The REM shall research availability of fund sources such as grants and incentives.

k) 5% Agency Support: Promote and support [HIRING AGENCY] nationally to expand the REM program.

l) 5% Other Support: The REM shall, for example, respond to requests for energy data and information.

Appendix B:
Statement of Work

SAMPLE TWO

Resource Efficiency Manger Program for [site name]

INTRODUCTION

In an effort to address escalating utility prices and Executive Order #13123 mandating energy usage reduction goals of 30% (by 2005) and 35% (by 2010). The Public Works Center (PWC) [installation name and location], is requesting a Resource Efficiency Manager (REM). The REM will provide a focused and coordinated effort for improvement in the energy-efficient operation of key facilities, equipment and control systems, address demand reduction, and research/ facilitate energy conservation programs offered through UESC contracts and others.

The program will analyze systems and methods of operation, identify new opportunities for energy, water and solid waste (implement or strengthen recycling programs), emission reductions, and facilitate implementation of energy initiatives to reduce demand and consumption. By developing and building on existing resources, the program will reduce energy use, help the environment, and save money.

This effort will assist [installation name], and the entire Navy to comply with Federal Executive Order 13123. This order calls for Federal agencies to improve the energy efficiency of their buildings, promote the use of renewable energy, and reduce greenhouse gas emissions associated with energy use in their buildings, among other energy-related requirements.

BACKGROUND

The key mission of a dedicated REM is to reduce the overall energy/resource consumption. Further the REM will develop and submit grant applications to install energy reduction projects which may be offered through the state, federal or utility programs.

The key mission of the REM program is "*energy-efficient operation*". By definition this term means:

An energy-consuming device is operated efficiently when it consumes only as much energy as is necessary to fulfill its intended function.

Secondly, the REM will assist the Navy to reduce peak electrical demand. Thirdly, the REM will reduce energy, water and solid waste consumption. Lastly, the REM will assist with identification and development of additional projects.

Four benefits of the energy efficient operation component are 1) substantial energy savings, 2) low cost, 3) no sacrifice of comfort or productivity, and 4) better information from which to make capital improvement decisions

Generally most facilities have a few large energy consuming devices that use a large percentage of the annual energy. The REM will inventory and identify these energy-consuming devices and estimate the electrical and fuel use thereby creating a energy use profile of the equipment. Using the Energy Management Control Systems (EMCS) and/or simple datalogger equipment, actual energy use will be measured over time. After examining the actual energy use, the REM will compare this data to the estimated profiles. The profiles will reveal waste occurring either because of system malfunctions or because systems are operating when they are not required.

STATEMENT OF WORK

The following scope items will be implemented as part of the [installation name] REM program. In order for the efficient operation process to be effective, the REM will lead work with the Public Works Center utilities team and managers of Naval facilities to establish policies, responsibilities and attitudes described below:

1) Develop Overall Resource Policy and Incentive Program

   Develop a resource policy and incentive program which will impart a value to energy-efficient operation. The REM will work with utilities department to create these polices which are congruent with the appropriate Federal Executive Orders. The outcome of this effort is elimination of unnecessary energy use and cost, which should be highly valued by management. In addition the reduction of environmental degradation should also be valued. Incentive programs will also be created and approved by management to motivate various site groups to reduce resource use.

2) Develop an Awareness Program

   An important objective is to develop enthusiastic participation in the REM program. It is critical to the success of this effort that management looks at the accountability, incentives and motivation of all key participants to ensure there are no barriers to their participation.

3) Cultivate Cross-Functional Nature of Program Effort

   Management must recognize the cross-functional nature of the REM effort. The REM will assist in the formation of an *energy management team* that can occasionally involve all of the people who significantly influence the energy use of the equipment under study. This team will include, when possible, personnel representing electrical maintenance; HVAC maintenance; contract maintenance; custodians; security staff; occupants of energy intensive spaces such as computer rooms, and occupants of general office spaces. The REM will interact with individuals having responsibility with the Energy Management Control Systems (EMCS). Development of base wide EMCS will be a constant focus of the REM; as well as ensuring existing systems are programmed to reduce waste and optimize schedules.

4) Define Return on Investment

   The REM coordinates the effort where Management will define an acceptable return on the investment in the energy reduction program. For example, management might stipulate that each dollar spent on this effort should return $1.20 in avoided energy costs.

5) Institute Methods of Accounting

The REM will coordinate between Management and the energy team to institute simple methods to account for the time and materials invested in the efficient operation program. This is necessary to ensure that the appropriate relationship between investment and return is maintained. This accounting should recognize that the initial start-up of the process would take considerably more time than will be required for maintenance of the mature process. In addition ***energy accounting software*** will be purchased and set up to maintain a current database of energy consumption. Each month various energy consumption reports will be provided to team members and management. Each quarter upper management will be provided special briefings pertaining to the overall REM program and energy use trends.

6) Establish Management Process

Initially the REM will establish an orderly, methodical management process.

The REM will collect information, develop procedures, keep records, chair informational teams meetings and communicate with persons of diverse skills and backgrounds. Once the procedures and responsibilities are clearly established the REM may hand off this responsibility to another team member.

7) Become Self-Funding

The REM program is to become self-funding through avoided energy/resource use, fuel switch savings, energy rate savings and avoidance of late payment penalties.

Performance management practices will be integrated into the REM to maximize the program's return on investment and to justify the programs existence. The PWC will be offered an annual extension of this service.

DELIVERABLES

The REM will provide monthly progress reports, which document activities conducted and savings achieved to date. In addition to the monthly status reports, the REM will be required to: 1) submit written recommendations for energy projects, operation and maintenance measures, and other actions, as they occur; 2) prepare award nominations; and 3) prepare applications for state, federal, and utility incentive programs, rebates, and grants to the appropriate offices for submittal. The following REM Scope of Work outlines the tasks required of the REM within three specific areas. These are; 1) **Energy Program Support**, 2) **Projects**, and 3) **Awareness**. The tasks may include, but not be limited to the following:

Program

1. Develop energy master plan, for installations where none exists.
2. Develop/establish metering/submetering program.
3. Perform utility billing audits.
4. Establish energy account database.
5. Develop/maintain energy program reports, metrics, and performance indicators.
6. Provide planning support for energy budget.
7. Provide support for energy efficient design/procurement standards and codes.
8. Provide REM program status report.
9. Manage implementation of installation Energy Visions.

Projects

1. Identify and develop low cost/no cost opportunities.
2. Provide support to develop, and operation of the Energy Management Control System, and scheduling of other building control systems.
3. Re-commission/re-calibrate HVAC inefficient energy controls.
4. Develop/assist in project identification and justification (scope, LCC, auditing).
5. Serve as commissioning agent throughout planning, design, construction, and occupancy phases for various facilities.

Awareness

1. Creating, updating, maintaining and implementing PWC's and installation's Energy Conservation Instruction.
2. Participate and/or chair Activity level meetings and committees supporting the energy conservation program.
3. Advise energy manager, Public Works Officer, and tenant activities on energy conservation and awareness matters.
4. Assign tasks to various Activity organizations and monitor goals and task progress.
5. Manage on-going energy awareness program, which communicates the conservation message.
6. Prepare annual energy reports and conservation awards submittals, including major claimant awards.
7. Establish and support an incentive and awards program recognizing outstanding energy conservation efforts.
8. Provide training and support for Building Energy Monitors (BEMs).
9. Develop and distribute energy articles, newsletters, notices, posters, signs, and E-mails supporting energy conservation.
10. Prepare the program for Energy Awareness Week, Earth Day, and Energy Fairs.
11. Develop and ensure use of energy/utility building checklists.
12. Quantify and report energy waste corrective actions and service requests sent to trouble desk.
13. Establish/quantify/report on Energy Hot Line telephone number.

Appendix C:
Sample Progress Reports

The following is a Weekly Situation Report from a REM who works for a utility at a Navy site. Bracketed text replaces identifying information.

To all,

This week's report as follows:

1. Conducted the monthly Building Energy Monitor (BEM) meeting on 15 June. This month's agenda was a round robin discussion current energy concerns and issues from each BEM.
2. [installation name] project updates.
   - **NAVHOSP facility energy upgrades**. Completed the [corporation name] remote access test on 16 June. Completed a test on Air Handling Unit (AHU) –[No.] on 18 June with noted punch list items corrected the same day. A re-test will be scheduled early next week.
   - **Facility Energy Improvements**. [company name] mechanical completed the water heater replacement, successfully op-tested it, and will return next Tuesday to install the seismic strap.
   - **NEX air boundary curtains**. Forwarded cost data to the Navy Exchange for review and consideration.
3. Responded to a) an Engineering Field Activity [region] request for input suggestions on incorporating energy conservation into future BOSC contracts and b) Engineering Field Division [region] queries on our energy conservation measures proposed for Schedule 258 funding.
4. Enlisted energy team. Completed daily energy conservation rounds, conducted energy project contractor escort duties, took and recorded nighttime foot-candle readings at hangar [No.], supported the monthly BEM meeting, updated the Defense Utility and Energy Reporting System (DUERS) data base, completed Assisted Public Works Officer (APWO) tasking, and facilitated routine department vehicle maintenance.
5. Resource efficiency related training. Completed the ride share course, "Coaching the Van Driver II," facilitated by [transit company name] on 12 June.
6. This week's base newsletter give details on the use of straw as a sustainable eco-friendly alternative for building insulation.
7. Finally, "Fair Winds and Following Seas" to [name of engineering technician], leaving government service today. His support made it possible for the formation of the air station's enlisted energy conservation team, an event that made all else we created possible. Thanks, shipmate. You embody the Seabee "Can Do" spirit.

v/r,

[name of REM]

The following is a monthly progress report from a REM who works at a Navy site.
Bracketed text replaces identifying information.

Resource Efficiency Report

31-Mar-04 *No. 7*

Resource Efficiency Manager Report

Item	Project No.	Description	Progress Report	Status
1	REM Activity	[national laboratory name] Survey and Report	Status: We will be reviewing the Report for their projects we can execute. We will also be looking for possible projects to implement that they were unable to complete or to duplicate	100%
2	REM Activity	NOTE: Three buildings have been added to this project. The project will replace HID lighting with T8 and T5 fluorescents and lighting controls in the Activities buildings. Buildings formerly included were a total of six buildings.	Cost: — Savings MBtu: 3886 — Savings $: — SPB (Yrs): 8.68	100%
3	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 1,106 — Re-scheduling: 57 — **Potential Annual Savings**: 1,163	100%
4	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 862 — Re-scheduling: 62 — **Potential Annual Savings**: 924	100%
5	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 995 — Re-scheduling: 296 — **Potential Annual Savings**: 1291	100%
6	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 232 — Re-scheduling: 469 — **Potential Annual Savings**: 701	100%
7	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 140 — Re-scheduling: 669 — **Potential Annual Savings**: 809	100%
8	REM Activity	[building No.] HVAC Tune up.	*Findings / Savings:* — No Cost/Low Cost: 1,921 — Re-scheduling: 3,010 — **Potential Annual Savings**: 4,931	100%
9	REM Activity	[building No.] HVAC Tune up. Secure areas were not surveyed, they will be accomplished later.	*Findings / Savings:* — No Cost/Low Cost: 500 — Re-scheduling: 4,425 — **Potential Annual Savings**: 4,925	100%

Notes

DISCLAIMER

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For more information:

General Inquiries
EERE Information Center
1-877-EERE-INF
(1-877-337-3463)
www.eere.energy.gov/femp/

General Contact:
Ab Ream
Federal Energy Management Program (FEMP)
U.S. Department of Energy
EE-2L
1000 Independence Ave. SW
Washington, DC 20585-0121
Phone: 202-586-7230
ab.ream@ee.doe.gov

Technical Contact:
Dave Hunt
Pacific Northwest National Laboratory
Washington Operations
901 D Street SW
Washington, DC 20024
Phone: 202-646-7867
dave.hunt@pnl.gov

Produced for the U.S. Department of Energy, Energy Efficiency and Renewable Energy, Federal Energy Management Program, by the Washington State University (WSU) Extension Energy Program, through the Pacific Northwest National Laboratory.

DOE/EE-0299
July 2004

This publication is available online through the WSU Energy Program at *www.energy.wsu.edu/projects/rem/rem.cfm*

Printed with soy ink on recycled paper.

U.S. Department of Energy
Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable