RESERVE EFFICIENCY MANAGEMENT

Case Study

US Postal Service Resource Efficiency Manager Pilot 2000-2001

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U.S. Postal Service – Central Florida District 2000-01
Overview

For 15 years the United States Postal Service (USPS) accomplished a collective 15 percent increase in building energy efficiency, compared to fiscal year (FY) 1985, but in 2000 still faced a monumental task to reach federally-mandated 30 percent and 35 percent efficiency improvement totals by 2005 and 2010, respectively. Attempting to meet that challenge, the Southeast Area Energy Management Steering Committee at the USPS took a hard look at a program with proven success in becoming self-sustaining within a year and, thereafter, attaining a two-fold or more return on energy-spent dollars.

Accordingly, the steering committee selected its Central Florida District in which to launch a Resource Efficiency Manager (REM) pilot project. REM programs have been successful in other federal facilities across the country.

The intent of the pilot project, which got under way in 2000, was to demonstrate strategies and activities that resulted in cost-effective reduced energy use and to provide a model for the entire USPS Southeast Area and the nation. In addition to Florida, the Southeast Area includes Tennessee, Georgia, Alabama, and Mississippi, with members representing each district on the Energy Management Steering Committee.

The targeted Central Florida District encompasses 212 facilities containing more than 3.4 million square feet that generate nearly $5.5 million in annual energy costs. It is among nine districts within the Southeast Area comprised of approximately 3,800 facilities that produce $50 million in annual energy costs.

White’s responsibilities and duties during her REM tenure included:

- Secure grant funding and support from partners.
- Track, report, and analyze energy use in facilities.
- Develop and conduct energy training for staff.
- Develop and recommend energy policies and projects.
- Calculate reimbursable utility costs.
- Research new technology for the USPS systems.
- Promote a strong resource conservation ethic within the USPS.

**Major Accomplishments**

The USPS Central Florida District more than met its pilot project goal to generate savings in excess of the REM program cost. The first-year savings totaled $260,000. The cost totaled $200,000. That included $70,000 REM salary and benefits; $10,000 REM expenses; $20,000 contractor support; and $100,000 project implementation budget.

Approximately half of the savings was attributed to the effects of an energy awareness campaign and staff training. Energy awareness efforts were promoted around a clever slogan, “You Have the Power to Stamp Out Energy Waste”, which was developed as part of the Southeast Area’s Strategic Energy Management Plan (SEMP). White said staff responded by exhibiting the desired behaviors, which included turning off lights, turning off machinery when not used, and keeping doors closed when air conditioning was on.

Specific energy initiatives were responsible for the rest of the savings, including:

- Enabling “Energy Star” computers was accomplished at a cost of $2,000, resulting in an annual savings of $15,000 – a payback of about two months. The Energy Star strategy allows computer equipment to be idle with almost power consumption (sleep mode), and yet turn on instantly when needed.
- Installing real-time power measuring monitors at three facilities was done at a cost of about $23,000, resulting in an annual savings of approximately $40,000 – a payback of about seven months. Use of the meters allows energy staff to identify and reduce expensive load peaks, and shift usage to lower-rate periods.
- Placing 160 programmable thermostats to control air-conditioning use in those USPS buildings that do not have thermostats was achieved at a cost of $60,000, resulting in an annual savings of about $34,000 – a payback of about 21 months.
Installing Internet-communicating versions of the programmable thermostats in five sites with particularly high air conditioning energy use was completed at cost of about $9,500, and will result in an average annual savings of about $7,000 – a payback of about 16 months.

Replacing 70-watt flood lamps with one-watt LED lamps at truck loading docks was accomplished at a cost of about $7,000, and will result in an annual savings of about $9,300 – a payback of about 10 months.

Shared Energy Savings (SES) was established as the USPS’ method of performance contracting of energy projects. Currently, 54 facilities are included in the Central Florida District project, which is being undertaken in phases. Phase one, covering seven facilities is under way and phase two with 14 will follow. Subsequent phases will pick up the remainder. So far, just for the first two phases, the cost is estimated at approximately $2.2 million. The payback period, based on energy savings, is about seven years.

In addition to energy use reduction and cost savings, the REM project raised the awareness of the importance of resource efficiency.

“That’s good for business, good for the environment, and good for future generations,” said White.

Evaluation

The U.S. Postal Service Central Florida District’s REM pilot project was marked by a successful achievement of its goals to reduce energy consumption and save energy dollars, as well as boosting energy awareness. Furthermore, that attainment illustrated REM programs could be modeled at similar Postal Service facilities with the hope of being just as successful.

Success did not come without obstacles, however, whether those had to do with understanding the complexities of differing billing formats of the numerous utility companies and Postal Service facilities or dealing with unauthorized personnel who had access to building thermostats. Selection and installation of equipment was time consuming because metering and software needed to be compatible with the USPS Intranet in order to ensure that the system’s reliability was not compromised. Weighing when to use in-house maintenance personnel or outside contractors was a factor, too, as White and other project team members considered whether the in-house crew had the manpower and expertise to do the job at hand and in a timely manner.

Finally, another big problem during the pilot project timeline was the potential loss of revenue for the U.S. Postal Service in FY 2001 due to a significant increase in the cost of fuel, employee health benefits, and a lower-than-expected revenue growth.

The project team was able to overcome most difficulties to meet its stated goals. But budget problems loomed large for future energy initiatives.

Conclusions

Given the results of the pilot project, it made sense to make the REM program a permanent venture in the USPS Central Florida District and to expand the program to several or all districts across the Southeast Area. The potential seemed great for an incredible return on energy investments.

Naturally, the USPS also would want to automate and expand the collection and analysis of energy use data to document its energy investments in efficiency measures and strategies.

Furthermore, the USPS could benefit from better linking energy efficiency to operating expenses, as well as to increases in mail volume and improvements in operations efficiency. After all, there is an energy cost associated with each piece of mail. In fact, sorting mail by automation offers a 10-fold overall savings over manual processing. It costs more than $55 to sort 1,000 letters manually versus approximately $5 to sort the same number through automation. Sorting mail by automation decreases labor costs, but increases energy costs due to more equipment.

The budget deficit, however, puts the U.S. Postal Service in an interesting dilemma. It underscores the need for the agency to reduce expenses such as energy costs, but places a burden on the agency for actually providing a REM program. While the USPS pledges to continue working for energy savings, it will be difficult to achieve the same results as would be accomplished with a full-time dedicated REM. The SES project, which remains ongoing, will generate a higher dollar savings than in-house REM projects but the payback period is longer and the cost greater for implementation.

(Note: Due to budget constraints, the USPS found it necessary to move ahead on energy initiatives without a REM.)
Lessons Learned
Phyllis White, who served as the REM for the U.S. Postal Service's Central Florida District pilot project, offered some insights on the project’s impact.

What did you learn your first year?
It took more time than anticipated to coordinate the REM projects with the different departments. Patience, as well as a complete understanding of how the organization works, is essential.

Was it mostly trial and error?
At the beginning, yes, but once I figured out what support was needed, I started accomplishing more.

What was your role?
I was project manager, educator, and advisor. I also acted as an informant, keeping everyone apprised of how individual offices were doing each month compared to the same period last year (SPLY).

Was it hard to get an agenda?
No, not really. I started out with a clear idea of what I wanted to accomplish and climbed hurdles as I faced them to accomplish those goals.

How does the REM influence decisions?
A REM provides technical information and offers advice on ways to conserve our natural resources.

What is the key to success?
Support from top managers down is very important. They are the policy and decision-makers, and they provide the funding.

What were your expectations and attitude going in and what was the result?
I knew at the onset of the program that it was going to be difficult to change attitudes. Perseverance and a positive attitude are essential to your success. As a result, a large percentage of the facility managers are taking an active role in conservation measures and are looking for ways to reduce energy consumption.

How do you take advantage of opportunities?
Continue to educate yourself and keep abreast of what is going on in the industry. Communicate with people and emphasize the importance of conservation. Stay open to new ideas.

How do you deal with top brass?
Show them the business advantage of what you’re trying to accomplish for the company and, by all means, show them the results.

What has worked best, thus far?
The Shared Energy Savings (SES) project that our district has implemented is really working well. The contractor doing the work funds this type of project and the debt is paid with savings that are achieved through equipment upgrades and retrofits. We expect to save hundreds of thousands of dollars once this is completed.

What didn’t work so well?
Trying to get approval and funding for new technology. We have been actively pursuing a Combined Heat and Power (CHP) project, but it has been a very time-consuming effort due to budget constraints. However, we’ve recently been successful in getting the approval for this type of project at one of our three large plants.

What advice would you offer to other REMs?
You have to be patient, stay focused, and stay attuned to the needs of the facilities and employees while trying to maintain conservation. They are key to the success of the program. You should also stay vigilant for any new opportunities for grants, new technologies, partnerships, and other key stakeholders that you can utilize in carrying out your program goals. The one thing to count on is change. The goal may stay the same, but the road to accomplishment may be ever changing.

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Credit
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