



An Energy Efficiency Workshop & Exposition

Palm Springs, California

PARTNERSHIP CASE STUDIES

US POSTAL SERVICE (USPS)

Resource Efficiency Manager

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INTRODUCTION

- **USPS Southeast Area (SEA)**
 - Tennessee
 - Georgia
 - Alabama
 - Mississippi
 - Florida
- **9 districts**
- **3800 Facilities**
- **\$50,000,000 annual energy costs**





Resource Efficiency Manager Program

- SEA Energy Steering Committee
 - Determined need for energy program
 - Determined need for REM at District level
 - Central Florida District chosen for Pilot
 - \$5.4 million annual energy costs
 - Applied for Pilot Grant from DOE/FEMP
 - Modeled REM after the proven Washington State University/ FEMP program





Resource Efficiency Manager Program

- REM - Resource Efficiency Manager
 - Dedicated full-time to efficient use and conservation of our natural resources
 - Program needs to be self-funding and self-sustaining or it will be axed
 - Typical savings generated by an REM program is 5% of total annual energy costs
 - 5% of 5 million = \$250,000





Resource Efficiency Manager Program

➤ Costs

- REM Salary and Benefits \$ 70,000
 - REM Expenses \$ 10,000
 - Contractor support \$ 20,000
 - Project Implementation Budget \$ 100,000
- Total Program Cost: \$200,000
 - First year savings: \$250,000
 - Estimated second year savings: \$400,000





Group of Facilities for REM Pilot

- USPS Central Florida District
 - 212 Facilities
 - 3,401,675 square feet
 - \$ 5,423,864 FY-2001 energy costs
 - Average ECI is \$1.59 per square foot
 - Most efficient facilities are less than \$1.00 per square foot
 - \$ 1.6 million in savings opportunities





PARTNERSHIPS ESTABLISHED

Fed & State

U.S. DOE
FEMP

Washington State
University

Florida Energy
Office

Private

Advantek
Harding-ESE

PML
ProAction Systems

17 Serving Utility
Companies

In-House

Admin Service
Maintenance

Accounting
Info Tech

Postmaster
Station Managers



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PARTNERSHIP IMPORTANCE

- Partnerships are key to success
 - Critical need for assistance & cooperation
- Establish partnership with all ***Utility Companies*** that service your area
 - Utility Information and Rebates
 - Historical Data in Electronic Format
 - Alternative Rate Structures





PARTNERSHIPS

- DOE - ***Federal Energy Management Program (FEMP)*** and the ***Florida Energy Office (FEO)***
 - Grant funding and support of Pilot Program
- ***Harding-ESE & Advantek Consulting***
 - Perform comprehensive energy surveys
 - Research new technology for use by REM
 - Technical review and backstopping
 - Grant administration





PARTNERSHIPS with ...

- ... **TECO Solutions (Utility ESCO)**
 - **Shared Energy Savings Program**
- ... **Postmasters & Managers in District**
 - **Did walk through at their facilities**
 - **Advised them on ways to conserve**
 - **Ranking reports**
 - **Encourage Competition for Most Savings**
 - **Tracking of decrease/increase in energy use**





PARTNERSHIPS with ...

- ... Accounting Personnel
 - Have ready access to all bills for all Districts
 - Copies of utility statements are for analysis
 - Helped to solve discrepancies and over charges found on the monthly statements
- ... In House Maintenance
 - Use of their knowledge & manpower to implement projects





PARTNERSHIPS with ...

- ... Administrative Services Specialists
 - This office handles new construction and repair & alteration projects
 - They maintain records on facilities
 - In-depth knowledge of facility conditions
 - Existing and Planned Projects





PARTNERSHIPS with ...

- ... Information Technology
 - Software compatibility with USPS systems
 - Provided hardware for REM programs
 - Established Internet connections for communicating thermostats and meters
 - Ensured new software worked properly





PROGRAMS IMPLEMENTED

- Awareness & Training
 - ***“You Have the Power” “Stamp Out Energy Waste”***
 - ***Energy Star***
- New Technology
 - Internet Communicating Thermostats
 - PML Real-time Energy Monitors
- Equipment Upgrades
 - LED Lamps
 - Programmable Thermostats





Awareness & Training

- **Energy Star Computers**
 - **\$15,000 per year savings**
- **Preventative Maintenance**
- **“You Have the Power” posters**
- **Energy Conservation Measures**

Money Isn't All You're Saving





New Technology

- Internet communicating thermostats
 - ProAion Systems software and hardware
 - Five facilities, cost per facility average \$2,000
 - Remote access to thermostats via internet
 - Savings - \$5,800 ~ \$8,400 per year
 - Installed by in-house technicians
 - Payback period: 1.5 to 2 years





New Technology

Internet Communicating Thermostats

The screenshot displays the ProAction ECT software interface. The main window, titled "Ops Console - ProAction ECT", shows the "U. S. Postal Service" and four thermostats:

Thermostat	Current Temp	Target Temp
1	69	72
2	71	74
3	76	73
4	76	75

An "Admin - ProAction ECT" window is open, showing the following controls:

- Site Location: Green circle
- Holidays: Green circle
- View Log: Green circle
- I/O Status: A OK
- I/O Settings: Green circle
- Passwords: Green circle with a lock icon
- Lock Buttons: Green circle

The taskbar shows the Start button and several open applications: "Ops Console - Pr...", "Admin - ProA...", "Log", "untitled - Paint", and the system clock showing "1:26 AM".

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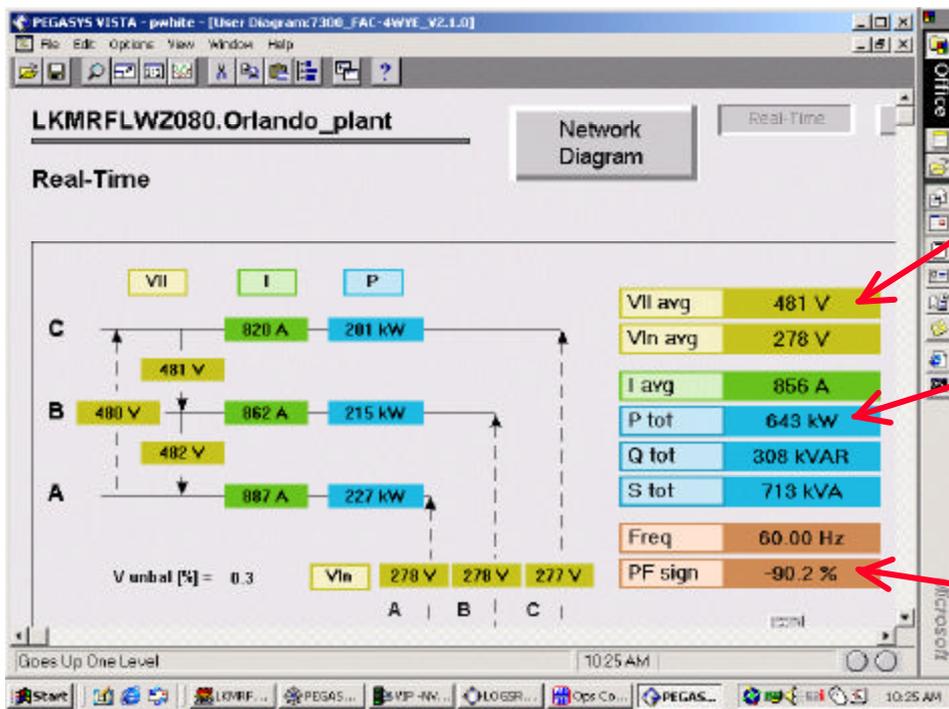
New Technology

- Utility Meter Monitoring
 - Power Measurement Monitors
 - 3 Facilities - 5 Monitors
 - Mid-Florida Processing & Distribution Center
 - 340,000 square feet, \$416,000 energy
 - Orlando Processing & Distribution Center
 - 360,800 square feet, \$490,000 energy
 - Kissimmee Main Post Office
 - 28,000 square feet, \$61,800 energy
 - Savings - \$40,000 per year





New Technology - PML Monitors



**Average Voltage
(481 Volts)**

**Total Power in Real-time
(643 kW)**

**Power Factor
(90.2%)**





New Technology - PML Monitors

- Used outside contractors for installation
- Commissioning & training on equipment by Power Measurement Limited engineer.
- Budget constraints a factor in completing the project.
- Enable us to view usage on a real-time basis and identify savings opportunities





Equipment Upgrades

□ Installation of LED dock lights

- 70-Watt flood lamps vs 1-Watt LED lamps
- 5 year warranty on LED lamps
- Large reduction in labor costs
- Savings - \$9,340 per year

□ Programmable thermostats

- Expected savings - \$34,000 per year





OBSTACLES ENCOUNTERED

- In-house maintenance versus outside contractors
 - Ensure that your in-house crew has the **manpower** & the **expertise** to do the job at hand & in timely manner
 - Know where your project will fall on their priority list





PROBLEMS ENCOUNTERED

- Information Technology
 - Coordinating with all in-house departments
 - Ensuring software will be allowed by IT
- Provide for Unexpected Expenditures
 - Costs for extra equipment
 - Costs for training





ACCOMPLISHMENTS

- Installation of New Technology
- Savings Achieved
 - Reduction in kWh usage by 6%
 - First year savings of \$260,000
- Raised awareness of the importance of resource efficiency & conservation
 - Good for Business
 - Good for the Environment

