

# Case Study: Resource Conservation Mgmt.

## Crook County schools debunk energy 'myth'

*Myth: Only BIG school districts can achieve BIG energy savings. The small districts operate on a shoestring and don't have the same opportunities or access to the same resources.*

One small Central Oregon school district debunked this myth to the tune of 15 percent of their utility bills or \$95,373 in school year 2003-04. And, they didn't spend any extra money to implement the savings. Most importantly, the district used the energy savings for restoring full funding for two teaching positions that had been destined for the "chopping block."

Crook County School District Facilities Manager Deen Hylton oversees seven K-12 schools and three support facilities located in or near Prineville. While other Central Oregon towns such as Redmond and Bend are seeing tremendous growth and additional sources for revenue, Prineville's population is fairly stable at 8,500 residents and a slow growth rate. The school district serves 3,100 students.

The small district spends about \$620,000 on its utility bills a year. Hylton, who has been with the district for eight years,

**"It is not only the initial impact of these savings that is valuable, but the cumulative impact is tremendous."**

*-Gary Peterson  
Superintendent  
Crook County School District*

has seen the energy use and bills increasing in recent years and his maintenance/grounds staff decreasing from 31 to 25 employees.

"I was concerned, then something caught my ear," Hylton said. "Redmond School District was having success saving energy. Then, I attended an OSFMA (Oregon School Facilities Management Association) meeting and heard the Department of Energy talk about the RCM Program."



*The Crooked River Elementary School built in 1939 is typical of the district's aging facilities. That didn't stop the district from implementing an RCM program and saving energy.*



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## RCM

RCM - Resource Conservation Management - is a tool that assists facility managers to control energy operating costs and increase energy efficiency.

“I approached school administration and they listened,” he said. “The budget was getting tight and what I was proposing cost nothing and, hopefully, would promote savings.”

What Hylton proposed was to form an Energy Committee in October 2002. A staff member from each of the seven school buildings and three facility sites would be on the volunteer committee that would meet monthly. Both classified and certified staff are on the committee.

“It was key when looking for behavioral change to ensure everyone had input,” said Crook County Superintendent Gary Peterson. “Deen did an exemplary job in establishing a representative committee that was a model for this collaborative, cooperative effort.”

Hylton contacted the Oregon Department of Energy Schools Team for assistance. School Program Specialist Betty Merrill provided Hylton with the RCM Guidebook filled with steps, forms, and ideas to get control of energy use. Hylton researched the Internet for information and resources.

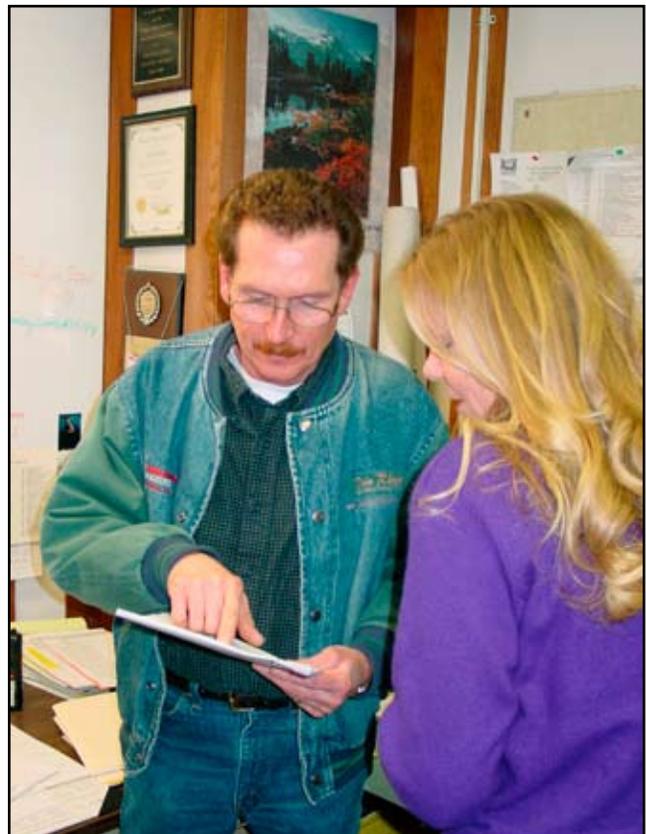
The Department of Energy also provided Hylton with the Utility Manager software program.

“This program helps facility managers track the energy use of their buildings and compare one year to the same month in previous years,” said Merrill. “They need this information if they want to manage their energy usage.”

Even for a small school district, the bills can be confusing. Crook County School District has bills for 14 gas meters and 30 electric meters. The Utility Manager software presents the usage and billing information so Hylton and his staff can review it effectively.

### Obstacles

But, Hylton quickly encountered some obstacles in just getting basic usage information. He was the last on the list to receive a copy of the utility bills that were sent directly to the administration building. The bills were often three weeks old by the time they reached Hylton. He called the district’s gas and electric companies to add the maintenance building address to their mailing lists and installed a simple mail slot in the maintenance building front door. Now he gets the bills in a much more timely manner so he can enter information into the computer and track down problems that appear.



*Deen Hylton, left, Facilities Manager of the Crook County School District, shows Oregon Department of Energy Schools Program Specialist Betty Merrill the district's latest energy usage report. Merrill and other Department of Energy staff assisted the district in implementing a successful RCM Program.*

Hylton and his staff soon made some important discoveries as they researched their energy use. The HVAC controls for the high school, the district's newest building, had a program error. The building was being heated seven days a week, 24 hours a day. In addition, Crooked River Elementary School had three buildings, but only one temperature sensor for all three.

"How can you control a building's heat setting when you don't even know how warm or cool the building is?" Hylton asked.

In addition, one of the three Crooked River facilities had classrooms and was occupied on a regular basis. The other two buildings were being heated at the same rate, but were empty most of the time.

Hylton and his staff reprogrammed the high school HVAC control so the building is not heated when unoccupied. They put in extra thermostat sensors and controls in the three Crooked River Elementary Schools buildings so each can be monitored and controlled individually.

### **Behavioral changes**

At the Energy Committee's first meeting, representatives decided that in addition to the operational changes implemented by Hylton and staff, it was most important to recognize behavioral changes that would be necessary if the program was to succeed. They set a temperature standard for all school district buildings. The heat would be set at 70 degrees F for kindergarten through 3rd grade and 68 degrees F for 4th through 12th grade. Lights and computers would be turned off when not needed. Personal electrical appliances (space heaters, coffeemakers, refrigerators) are being phased out.

Crook County School District's first-year energy savings amounted to \$95,373 and they did not spend any extra money to implement the RCM Program. The school district's Energy Committee budget was zero for the first two years.

At the in-service week for school staff the end of August 2003, Hylton and the Energy Committee shared the exciting news and something else. The money saved by the district was used for reducing the district's deficit and funding two teaching positions. But, a small portion of the savings also went to each of the facility sites. These incentive checks were based on the number of employees for the building. Each building decided how to use their money for an unfunded school need or project.

"For example, the maintenance building staff used the money to buy some new tools we needed to repair items more quickly and efficiently," Hylton said. "One of the schools purchased some hand-held calculators for the students and another spent funds on math and accelerated reading programs."

### **Criteria**

This year, the Energy Committee has decided the incentive checks will be based on:

- 10 percent for participation on the Energy Committee
- 20 percent on classroom or site projects related to energy conservation



*Crook County High School is the newest building in the district opening in the fall of 1996. Despite having the newest technology, the district discovered the HVAC controls had a program error that was causing the district to waste energy.*

- 30 percent on electrical savings of turning off lights, computers, etc.
- 40 percent for overall utility savings

The Energy Committee also raised the minimum standard for 4th grade through 12th grade heat to 69 degrees F. Hylton said the change was due to the number of temperature complaints related to comfort that his staff responded to during the year. He noted that it was important to the success of the program to be responsive. He sent a custodian the day of a complaint with a digital thermometer to test the middle of the room at desk height and shared the results with the occupants. Adjustments were made to ensure that the proper temperature was achieved. "You need the staff and students on your side for this to work," Hylton said.

### **The future**

"We hope to encourage more student activities this year," Hylton noted. "If we can teach the younger kids the importance of energy conservation, in six to eight years, it will be habit for students through high school."

Superintendent Peterson also looks at the importance of the program over the long term. "It is not only the initial impact of these savings that is valuable," Peterson said. "But, the cumulative impact is tremendous."

This year's efforts appear to be on target. As of March 1, 2004, Hylton's progress report showed savings are \$10,000 ahead of where the district savings were last year at the same time.

Hylton and the Energy Committee are now looking into conservation efforts for other resources - water, sewer and garbage. Water and sewer costs are increasing rapidly, up 40 percent in the past two years. While a portion of the growth in costs is attributed to rate changes, there were some unexplained increases in usage. Hylton and staff detected underground water leaks at two school sites that are getting immediate attention.

"There are a lot of unsung heroes who make this program a success," said Hylton. "You need administration, staff and students on your side. We also have had the Department of Energy helping. Anytime I've asked Betty (Merrill) for something, she's responded."

**If your school district would like assistance, contact the Oregon Department of Energy Schools Team at 1-800-221-8035 (toll-free) or (503) 378-4040 in Salem. The Department of Energy Web site has the RCM Guidebook on line for school districts to use at [www.energy.state.or.us/rcm/rcmhm.htm](http://www.energy.state.or.us/rcm/rcmhm.htm).**

## **What is Resource Conservation Management?**

Resource Conservation Management (RCM) is a management tool that gives you more control over the operating costs of your facilities. It helps you to reduce operating costs, increase efficiency, prepare for deregulated energy purchases and promote environmentally friendly operations.

An RCM program is a well-coordinated effort to manage the resources and services used, and the waste generated, by your facilities. It involves careful tracking of resources and attention to operational efficiency. The program focuses on occupant comfort, cost-effectiveness and assuring that equipment is used only when needed. Operational savings are gained through organization, analysis and communication.

With a comprehensive RCM program in place, you can expect to see quantifiable results in the first one to six months. Most RCM programs achieve 10 to 15 percent savings on utility bills after the first year -- depending on the number of facilities involved and level of management commitment.