

## California takes notice of Redding's outreach and efficiency programs

Politics and utilities often make uneasy bedfellows, so the importance of being the only California public utility to be chosen to participate in Gov. Arnold Schwarzenegger's "Leading the Green Dream" Inaugural Celebration in January was not lost on Redding Electric Utility.

"We were very honored that the California Energy Commission invited REU," said Energy Services Manager Pat Keener, but this was not the municipal utility's first time in the spotlight, he added. "The state Legislature, Northern California Power Agency and the California Municipal Utility Association have all recognized our demand-side management, education and outreach programs. Also, REU's Director James Feider has testified at hearings on energy legislation."

Residential Account Manager Adrian Mallery represented REU at



Lineman Sean McCall uses a continuity meter to show students at the REU Energy Experience that they can conduct electricity. The educational program is a joint effort between REU and Turtle Bay Exploratory Park. (Photo by Redding Electric Utility)

the event and spent the day educating children and adults about the benefits of energy efficiency and conservation. REU's participation in the event led to yet another invitation—CEC asked the utility to participate in a renewable energy and conservation education workshop later that month and again in March. The workshops focused on how to best deliver the energy conservation, efficiency and renew-

able resources message to the state's fourth- and fifth-grade students.

### Many ways to save

REU's successful program to teach elementary students about electricity is what brought the utility to the CEC's attention in the first place. That, and the utility's approach to DSM and its commitment to renewable energy, said

*See REDDING PROGRAM, page 2*

### What's inside

Load management..... 4

Online IRP ..... 6

Energy shorts ..... 7

## Redding program

from page 1

Keener. “We launched an aggressive public benefits program in 1998 to promote energy efficiency,” he stated.

Residential customers can get free energy audits from REU that include “Smart” Energy Savings Tips to help homeowners conserve energy and save money. An extensive rebate program offers incentives for upgrading appliances, HVAC systems and lighting; weatherizing homes and installing geothermal heat pumps or solar arrays. Business customers are eligible for a similar menu of incentives.

REU has been equally proactive in its renewable energy program. Although California’s renewable portfolio standard does not require publicly-owned utilities to comply, the city voluntarily adopted its own goal of serving 20 percent of retail

sales from renewable resources by 2017. “If you count hydropower, we are already at 50 percent,” Keener pointed out.

Resources in Redding’s portfolio include a contract for 25 megawatts of wind power from an Oregon wind farm and a recent agreement to purchase biomass power. Installations on two civic buildings—the new Redding fire station and the new library—add 20 kW of solar power. Nine residential customers also have solar installations.

### Reaching parents

The education program may be REU’s greatest source of pride, however. Keener was developing and presenting residential DSM training programs as far back as 1991, when he worked for a large, investor-owned, Midwestern utility. The idea of educating the next generation of consumers appealed to him, he said, “Because kids take the message home to parents who suddenly become more interested in the programs REU offers.”

In 2002, Keener found some Save a Watt masks at a Northwest Public Power Association event that inspired him to create a presentation that kids would find enjoyable as well as educational. “I thought they were fantastic,” the energy services manager said of the masks.

Keener and Mallery developed the concept into a program to teach local fourth- and fifth-graders the basics of electricity, including safety, and the importance of conservation of electric energy and water. “We tweaked the programs I had done in the Midwest—adapted them to Redding’s climate and added some new information,” Keener said.

Features of the program include:

- **Electricity basics:** How electricity is made, the importance of energy and water conservation and the benefits of a locally-owned and -controlled utility.
- **Safety:** Linemen give their presentations dressed in full protective gear. They use a model house to show the dangers of being careless with electricity, complete with a miniature person that gets electrocuted
- **Science:** Students learn that people can conduct electricity by joining hands while one of the group holds a continuity meter. The meter’s buzzing sound shows that power is flowing through them. When two students let go of each other’s hands, they create a circuit breaker.
- **Efficiency activities:** Each student receives an REU folder containing information about wise appliance use, a sheet for audits, list of energy savings tips, and a recycled pencil made from Levis.
- **Souvenirs:** Teachers receive a low-flow showerhead, compact fluorescent lamp, pen and small calculator stamped with the REU logo to calculate how much electricity they are saving after the presentation.

### Measuring success

The show-and-tell approach has been very popular with students, teachers and parents. “Parents have called to tell us that their kids come

---

See REDDING PROGRAM, page 3

### Energy Services Bulletin

The Energy Services Bulletin is published by Western Area Power Administration for its power customers. The mailing address is Western Area Power Administration, P.O.Box 281213, Lakewood, CO 80228-8213; telephone (720) 962-7065.

The mention of any service, product, or technology does not constitute an endorsement of same and Western, the Department of Energy, or the United States Government cannot be held responsible or liable for use thereof.

**Editor:** Kevon Storie  
**Designer:** Grant Kuhn

## Redding program

from page 2

home and ask, 'Why don't we get rid of that second refrigerator in the garage? It's costing us energy.' That's exactly the kind of impression we hope to make," observed Keener.

REU now does two to three presentations each month, Keener estimates. Success also shows in traffic on REU's Kids Corner Web site. "It gets about 10,000 to 12,000 hits per month," noted Keener.

REU contracts with the online technology company Apogee Interactive to provide a home energy calculator that plays a part in the education program. Before REU's presentation, teachers offer students extra credit for using the calculator to conduct an online energy audit with their parents and bringing the printed audit to class. Apogee is surprised at the number of hits the calculator receives from a utility as small as REU, said Keener.

The education program has been so successful that REU is branching

out. The utility recently partnered with Turtle Bay Exploratory Park, a 300-acre natural history complex, to create a program called the REU Energy Experience, "It's My Planet." Keener would also like to develop an educational program for high schools.

### More incentives

All of this attention on tomorrow's consumers does not mean REU is neglecting their parents. Keener hopes to increase the number of customers taking advantage of the incentives REU offers for geothermal heat pumps and solar technology. Through Earth Advantage, a green building program the city co-sponsors with the local building industry, REU arranged for a builder to install geothermal heat pumps in most of the homes in a 25-lot development. "The homeowners have reported being very pleased with their systems," said Keener.

The geothermal heat pump's popularity is somewhat hampered by the fact that there are no local drillers. "We had to bring a driller in from Weaverville to do the subdivision

project," recalled Keener. "Redding could be a big opportunity for a certified installer," he added.

Residents have been slow to install solar photovoltaic arrays for a different reason, observed Keener. "Our rates are so low, the payback on a system is around 40 years," he said. "So far, only eight or nine customers have taken advantage of the rebate, even though our incentives are more aggressive than SB-1 [California's solar bill]."

The economics for solar hot water heating systems are much more attractive for homeowners, however. REU plans to focus on promoting that technology and efficient air conditioners over the next year. "Those applications are accessible to most residential customers, as well as being an excellent value," Keener explained.

Making energy efficiency understandable—and available—to as many customers as possible is, after all, how Redding Electric Utility got the governor's attention. That's the kind of public utility everyone can appreciate. ⚡

Want to know more?

Visit [www.wapa.gov/es/pubs/esb/2007/apr/apr071.htm](http://www.wapa.gov/es/pubs/esb/2007/apr/apr071.htm)

## Key Account Tool Box

*Your key to community energy solutions*

[www.keyaccounttoolbox.org](http://www.keyaccounttoolbox.org)

### Online resources to help utilities and businesses

- Raise awareness about energy efficiency and renewable energy
- Improve economic growth and vitality
- Reduce costs and increase productivity

Sponsored by American Public Power Association, Western's Energy Services, Southeastern Power Administration and EnergyIdeas Clearinghouse

# Load management offers utilities customized control

**A**t a recent demand-side management workshop Western held on the plains, many utilities expressed an interest in conquering peaks—or peak demand, at least.

Programs that reduce or shift demand from on-peak to off-peak times may be more complicated to implement than conservation programs, which reduce total electricity use. However, such load-management, or demand-side management programs have the potential to lower overall electricity costs, since utilities pay for demand as well as electricity. Load management may also reduce environmental pollution because of the need for fewer peak generators.

A typical demand response program involves customers voluntarily installing relays on appliances or systems so the utility can remotely turn off the units for short periods during peak demand. Many utilities encourage load management by offering customers a choice of service options with price incentives.

Missouri River Energy Services, which hosted the DSM workshop at its Sioux Falls, S.D., headquarters, is working with its members to develop both energy-efficiency programs and demand-response strategies. “The appeal of load management is that each utility can customize the system for its own situation and load profile, and get results on a large scale,” said MRES Energy Services Supervisor Joni Livingston.

## Targeting heating

Valley City, N.D., Electric, for example, launched a load management program in 1980 that focused on dual-fuel heating systems, as well as interruptible loads like

water heaters. This is a common measure for winter-peaking utilities, according to Valley City Energy Management Specialist Wayne Nelson. “You can control dual-fuel heating for longer than you can water heaters because the alternate furnace provides the heat while the electric heat is off and eliminates load rebound when the electric heat is turned back on,” he said. “It’s actually a load-shedding strategy.”

The program was Valley City’s answer to purchasing expensive supplemental power from a newly-built, coal-fired plant. “The plant had to be paid for and that power cost more than Federal hydropower,” Nelson recalled. “Since our peak determined how much supplemental power we had to buy, we set out to get the peak down.”

Valley City did limited marketing for the program because the utility was not sure how long it could offer it. “We only planned to go with load management as long as it made economic sense,” said Nelson. “The factors that made it viable—rate differential, cost of fuel, the economy in general—changed a lot through the ‘80s and ‘90s. Some utilities actually turned off their load management systems.”

However, the off-peak rate participants received was a good customer relationship builder even when the utility’s savings became



**Warren Neal of Loveland Water and Power installs a cycling device on a customer's air conditioner. Customers are volunteering for the cycling program to help the utility manage its summer peak. (Photo by Loveland Water and Power)**

smaller. The program continued to grow through word of mouth, said Nelson, “But we never reached the point where the rate discounts exceeded the power cost savings. And the cost of supplemental power might level off for a while, but over time it keeps going up,” he pointed out.

Today, after nearly 30 years of manipulating its load to reduce the peak, Valley City boasts a very high load factor, the ratio of the average load to peak load during a specific time. Although continuing to reduce the peak now requires more manipulation—“We have to control the load longer to maximize the peak reduction,” Nelson observed—he continues to be a proponent of load management. “High demand charges are causing utilities to take another look at demand response,” he noted. “Valley City’s history shows what an effective tool it can be for controlling costs.”

*See LOAD MANAGEMENT, page 5*

## Load management

from page 4

### Summer peak program

Loveland, Colo., Water and Power hopes that demand response can help the municipal utility get control of a summer peak that has grown 135 percent over the last decade. Partnering With Power, Loveland's first load management effort, is a basic air conditioner cycling program and participation is strictly voluntary and free. "We wanted to give customers the chance to learn about what is going on with their utility and empower them to address energy concerns," said Utility Conservation Coordinator Mary Wyatt.

Like Valley City, Loveland's concern is the high cost of peak power purchases. Getting its air conditioning load under control will help keep electricity rates stable. To meet the city's load management goal, Wyatt estimates that about 3,000 residents will have to sign up for the program. Before expanding the program to commercial customers, Loveland plans to test the cycling device in a public setting in its city buildings.

So far, customers are responding well to the twin incentives of community spirit and long-term economic benefit, communicated through a savvy marketing plan. In the first few months, 300 customers have signed up to have an adaptive algorithm cycling device installed on their air conditioners. "I am very impressed at how well our customers grasp the concepts of peak power and their role in reducing it," said Wyatt.

### Word of mouth

The program targets residential customers whose summer consumption is 75 percent more than in winter—about 7,000 of Loveland's 26,000 residential meters. Those customers received a letter from the utility explaining how the load management program worked. The letter was important as an introduction, Wyatt said. "It gave us something to talk about when we met with people. Some customers even signed up just from the letter."

The week after sending out the letter, Loveland employees—"In head-to-toe Water and Power garb," Wyatt noted—went door to door. "If the customer was home, we talked about the program," she said. "If not, we left a note, brochure and a fact sheet on peak power."

A press release and a story in the city newsletter about the program also got good response, but the personal approach seemed to work the best. "And now, people are hearing about the program from neighbors and calling us to sign up," Wyatt said, echoing Valley City's experience.

### Flexibility important

The most common question homeowners asked was if cycling their air conditioners would save them money. The short answer is "not much," since Loveland expects to activate the device only about 20 times during the summer cooling season on weekday hours between 2 and 7 p.m. There will be no cycling on weekends or holidays.

Customers can opt out of the voluntary program at any time, though the utility asks first if it can

reduce the extent of cycling. Also, if customers are having an event where they will need additional cooling, like a party with lots of guests, they can request to be taken off cycling for a day. "We wanted to give participants as much flexibility as possible, since they are volunteering to help us out," Wyatt commented.

At the end of the summer, participants will receive a report from the utility telling them how much the cycling saved. "When people get involved in a project to make a difference, it's important that they see the results," Wyatt acknowledged.

### Do research

Results are what matters in any DSM program, and load management does not always result in reduced demand, said Western Energy Services Manager Ron Horstman. "Especially when renewables and distributed generation are part of the mix, it is a good idea to do a rate study before implementing a load management program," he advised.

"Load management is just one DSM tool," Joni Livingston agreed. "At MRES, we urge our members to look at all the options and choose the measures that best fit their individual situations."

A growing number of utilities are taking that advice and looking closely at what load management might do for them. Under the right circumstances, it may be just the tool they need for scaling peaks—and cutting them down to size. ⚡

Want to know more?

Visit [www.wapa.gov/es/pubs/esb/2007/apr/apr072.htm](http://www.wapa.gov/es/pubs/esb/2007/apr/apr072.htm)

## Western to create online IRP reporting system

One of the main reasons Western's Energy Services program exists is to help firm power customers conduct integrated resource planning, as required by the Energy Policy Act of 1992. To do that, EPA states Western may provide technical assistance such as "publications, workshops, conferences, one-to-one assistance, equipment loans, technology and resource assessment studies, marketing studies, and other mechanisms to transfer information." Notably absent from that list is the Internet, but it was 1992, after all.

Fast-forward to 2007, when the Worldwide Web is one of the most common ways we transfer information. The Energy Services Web site offers a variety of resources to help customers complete their IRPs, but we believe Web-based tools can do more. This year, Energy Services launched a project to automate the reporting process. The goal is to update Western's IRP management program, said Energy Services Representative Michael Radecki, who is working on the project. "The current system is outdated," he said. "This is an opportunity to improve the consistency of our methods and applications. It's time to bring reporting into the 21st century."

### Eliminating guesswork

As the name implies, IRPs help utilities plan to meet future demand, and Western customers have found the process to be a valuable tool in providing reliable, affordable electric service. However, an effective plan requires specific and accurate information. Part of the difficulty

with IRPs, both for Western and for our customers, is the diversity of our customer base, Radecki pointed out. "Each region has different concerns, and our customers come in all sizes, so the level of information needed from each one is different," he said.

Western's revision of IRP requirements in 2000 streamlined the reporting process and allowed customers to substitute similar reports required by states and other agencies. In some cases, though, the changes may have added another layer of complexity. "Utilities may be unclear on how much information they need to provide to meet the requirements," said Radecki. "Or they aren't sure if another report they do qualifies as an approved alternative."

The fully-automated, database reporting system will eliminate much of the guess work, he continued. When customers' IRPs are due, the system will send them an e-mail message with login information. The user will enter the information and the system will generate the appropriate online form for that customer. The forms themselves will be simpler, too, in question-and-answer and fill-in-the-blank format. Users will be able to save information and return to the form until they complete the report and submit it. This feature will allow different representatives within the customer's organization to work on the report.

### Volunteers needed

The program is currently in the development phase, and Energy Services anticipates rolling it out this fall. But not until potential users put

the program through its paces and let us know if it really meets their needs. This is the part where we ask our customers for help. This summer, we will be looking for volunteer testers from throughout Western's territory. Ideally, customers will represent each type of IRP: the full integrated resource report, the Energy Efficiency and Renewable Energy report, the Minimum Investment Report and the Small Customer Plan.

Testers will need Internet access, although extensive computer experience is not necessary. Neither is experience filing an IRP. "The more levels of experience among the testers, the better," said Radecki. "That will help us make the system as user-friendly as possible."

Also, your IRP doesn't have to be due this year, but if it is, volunteering would be a great way to get your report out of the way. Testers can look forward to plenty of technical assistance, Radecki observed.

Of course, customers will still be able to get good, old-fashioned, one-on-one human assistance, even after the automated system is up and running. Energy Services staff will continue to review and approve customer IRPs and alternative reports, and help with developing and implementing various aspects of the plans.

Watch the Energy Services Bulletin and Energy Services Web site for updates on the online integrated resource reporting program. Customers interested in volunteering as testers can contact Energy Services Manager Ron Horstman at 720-962-7419. ⚡

Want to know more?  
Visit [www.wapa.gov/es/pubs/esb/2007/apr/apr073.htm](http://www.wapa.gov/es/pubs/esb/2007/apr/apr073.htm)



# Energy Shorts

## New Energy Services representative

Rocky Mountain Regional Energy Services Representative Linda Swails may be new to Western, but she brings years of industry experience in northern Colorado to the position.

Some RMR customers may know Swails from her work with Platte River Power Authority. Beginning her career in human resources, she held a variety of positions with the Northern Colorado power wholesaler. Swails moved into risk management and finance, and most recently served as a legislative advocate and lobbyist at the state level for Platte River.

“The experience gave me a good overview of many aspects of the utility industry,” she said. “I think that broad perspective will be an advantage in Energy Services, where one day we help a customer design a very specific program and the next day, a utility needs assistance planning to meet its long-term power demand.”

Swails is also a familiar face at several local, regional, state and national industry organizations. She has held leadership positions with the Colorado Association of Municipal Utilities, American Public Power Association and Northern Colorado Economic Development Corporation.

In 2005, Swails completed a master’s degree at ColoradoStateUniversity(?) Her coursework included business and education classes, which she said is useful in performing the analysis that is so much a part of utility operations today. “Determining



**Retired Rocky Mountain Energy Services Representative Peggy Plate welcomes Linda Swails to Western. Linda brings years of experience at Platte River Power Authority to her new position.**

if a renewable energy acquisition or a demand-side management program is right for a particular utility is about making the numbers add up,” she explained. “And because many utilities have small staffs, they often look to Energy Services to provide the resources for these analyses.”

Training for Western customers is one area Swails plans to focus on initially. In addition to coordinating power factor and DSM workshops, she is seeking out events that give her an opportunity to meet and talk with customers. “For example, I notified customers about a workshop Western was not sponsoring but I thought they might find useful,” she said. “People e-mailed back to learn more and I got to meet and help customers I might not have otherwise.”

Swails is also involved in the project to move the integrated resource reporting process online. “Western requires customers to complete IRPs, but once they’ve done

it, it becomes clear what a valuable tool the plan is,” she explained. “We believe that automating the process will help customers create even more effective plans.”

Finally, Swails plans to continue following legislation in the Rocky Mountain area. “A lot of changes are happening in energy and utility policy,” she said. “Customers rely on Energy Services to keep them informed about those activities and to help utilities position themselves to make the most of new opportunities.”

## Colorado renewable energy industry gathers steam

Solar power, wind power, research and energy policy are all making headlines in the Rocky Mountain state and the news is good for those who want to see Colorado at the hub of the growing renewable energy industry.

Southeastern Colorado will soon be home to the largest solar-energy plant of its kind in the United States, following the Colorado Public Utilities Commission’s approval of an 8-MW, \$60 million facility in the San Luis Valley. Minneapolis-based Xcel Energy Inc. will purchase power and renewable energy credits from the project. The credits will help Xcel meet Colorado’s newly expanded renewable portfolio standard.

House Bill 1281, the legislative centerpiece of Gov. Bill Ritter’s 2007 renewable energy agenda for Colorado, doubles the voter-enacted RPS to meet 20 percent of the state’s electricity needs with renewable energy by 2020. “The bill will help us attract manufacturers of wind turbines and solar products,” Ritter said. “It also will stimulate research and development of emerging energy technologies.

*See ENERGY SHORTS, page 8*

## Energy shorts

from page 6

Ritter signed HB 1281 and Senate Bill 100 at the National Renewable Energy Laboratory Wind Test Center in Boulder on March 27. SB 100 requires utilities to develop plans to improve transmission capacity in high-potential wind energy locations and allows them to recover costs during construction.

The week before the bill signing, Denmark-based Vestas announced plans to build a wind turbine-manufacturing facility in Windsor, Colo. Construction on the plant is expected to begin this spring, with production scheduled to start in early 2008. At full capacity, the plant will produce 1,200 wind-turbine blades per year and employ up to 464 people.

On the research front, another announcement in March trumpeted a new joint venture known as the Colorado Center for Biorefining and Biofuels. Businesses and government agencies will collaborate on developing new biofuels and biorefining techniques and in streamlining transfer of these advances to the public. Partners in the venture include the new Colorado Renewable Energy Collaboratory, Chevron, ConocoPhillips, Dow Chemical, Shell and small businesses such as Blue Sun Biodiesel, Green Fuel Technologies, Range Fuels, Solix Biofuels, PureVision Technology, Copernican Energy and Rocky Mountain Sustainable Enterprises. Collaboratory partners include the University of Colorado,

Colorado State University, the Colorado School of Mines and NREL.

### Western states to cut greenhouse gases

The governors of Arizona, California, New Mexico, Oregon and Washington have agreed to work together on a new regional effort to reduce greenhouse gas emissions.

The Western Regional Climate Action Initiative directs the five states to develop a regional target for reducing greenhouse gases within the next six months. Over the next 18 months, the states plan to devise a market-based program to meet that goal, such as a cap and trade program. The five states will also participate in a multi-state registry to track and manage greenhouse gas emissions in their region, and to continue their efforts to promote regional development and use of renewable energy and energy efficiency.

The Western Regional Climate Action Initiative builds on existing greenhouse gas reduction efforts in the individual states as well as two existing regional efforts. In 2003, California, Oregon and Washington created the West Coast Governors' Global Warming Initiative. Arizona and New Mexico followed suit in 2006, launching the Southwest Climate Change Initiative. Each of the five states has also adopted or committed to adopting state greenhouse gas reduction goals, mandatory emissions reporting and renewable energy requirements.

### New Federal transmission rule

The Federal Energy Regulatory Commission recently adopted a new regulation to allow greater access to transmission lines for power generators of all types, including renewable energy projects.

Under the new rule, intermittent power generators, such as wind power plants, will be exempted from excessive "imbalance" charges when the amount of energy they deliver is different than the amount of energy they are scheduled to deliver. To help accommodate less-predictable forms of renewable power generation, the rule creates a "conditional firm" service that allows the power supplier to provide firm service for most, but not all, hours in the requested time period.

The new rule requires public utilities to work with the North American Reliability Corporation to develop consistent methods of calculating the available capacity and to publish those calculations to increase transparency. This provision eliminates the broad discretion transmission providers currently have in making these calculations. It also calls for open, coordinated and transparent planning on both local and regional levels. All public utility transmission providers, including regional transmission organizations and independent system operators, will be subject to the new final rule, which follows reforms proposed by FERC in May 2006. ⚡

Want to know more?  
Visit [www.wapa.gov/es/esnews.htm](http://www.wapa.gov/es/esnews.htm)