

BULLETIN

Western's monthly energy efficiency and planning newsletter dedicated to customer activities and sharing information.

SOUTHEAST ELECTRIC ENLIGHTENS SENIORS ON LIGHTING TECHNOLOGY

It's never too early—or too late—to learn about saving energy, especially when a utility has an enthusiastic champion to take the message to its ratepayers and access to educational displays through Western's Equipment Loan Program.

Member Services Representative Marlene Waterland of Southeast Electric Cooperative is just such a champion, as well as an Equipment Loan frequent flyer. When Energy Services Bulletin last checked in with her, Waterland was using our lighting display and infrared cameras to coach Carter County, Mont., students to victory in America's Home Energy Education Challenge. Her message of energy-efficient lighting is now reaching a new audience—seniors.

Carter County Senior Coordinator Lori Buck recently invited Waterland to give a presentation at one of the lunches the senior center regularly hosts for local residents. Far from



Marlene Waterland (standing far right) used Western's lighting display to show off new lighting technologies to the lunch group at the Carter County Senior Center. (Photo by Southeast Electric Cooperative)

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the stereotype of being resistant to change, the attendees were very interested in new lighting technologies. "They want to know what's available and what's coming up," Waterland said.

PLENTY OF INTEREST

The lighting display helped to demonstrate some types of lamps that aren't yet widely available in rural Montana. "Everybody had heard about LEDs, but we don't see a lot

of them around here," Waterland observed.

Because most of the attendees still live in single-family homes, they were concerned about getting the right light for the application. Waterland brought a variety of lamps and fielded several questions about floodlights and cold cathode lamps. "Most of our customers already have at least a few CFLs [compact

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fluorescent lamps],” she noted. “I also included 4-foot fluorescent and LED lights, because so many homes have workshops and storage buildings with shop lights.”

One attendee wanted to know what kind of CFLs to use with sensor lights. “It was a good question,” Waterland noted. “Sensor lighting can shorten CFL lamp life. I stressed the importance of reading the manufacturer warranty to make sure the light will work for the fixture and the task.”

OUTREACH OPPORTUNITY

Southeast Electric offers free home audits for any customer of any age, which is how Senior Coordinator Buck became acquainted with energy issues. “Then I stopped by Lori’s office one day on the way to a classroom, with my hands full of new light bulbs for the lighting display. We started talking about different types of bulbs and changing regulations,” Waterland recalled. “Lori realized that this information would be useful to the senior center members, especially the widows who are taking care of their

own homes. So she invited me to give a presentation.”

Waterland was happy to accept an invitation that opened the door to meeting with customers who might get overlooked in other outreach strategies. Utilities often focus energy education efforts on schools because children share what they learn with their families. Certainly, a lot of Southeast Electric customers got a crash course on reducing home energy use through the utility’s involvement with the national energy competition. But people who don’t have children at home, or grandchildren nearby, often miss out on the enthusiasm of discovery that can rope the whole family into a project.

It may take an extra effort, like Waterland’s, to reach an older audience with new ideas and technology, but energy education is as important to them as it is to kids—maybe more, since many are paying electric bills on a fixed income. The people who were yelling at us for leaving lights on not so long ago still don’t like to waste energy. The key is to make the information

accessible, whoever your audience is, which is why Waterland borrows the lighting display so often.

RESERVE YOURS NOW!

The member services representative added that she doesn’t want to “hog” the lighting display, because she knows how useful it can be for talking to customers. “Once people see the different Kelvin ratings and realize they can buy brighter lights, they are a lot more receptive to CFLs and other alternative lamps,” Waterland said.

She doesn’t have to worry about a lighting display shortage, however—Western has six available for customers who want to educate consumers about lighting options. Equipment Loan Manager Gary Hoffmann also suggests infrared cameras for teaching about air leaks and insulation. Power meters can help utilities demonstrate the concept of “vampire loads.” Contact Hoffmann about borrowing tools for presentations to customers of all ages. When it comes to energy education, show and tell is not just for kids. ⚡

For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb1.aspx>

ENERGY SERVICES BULLETIN

The Energy Services Bulletin is published by Western Area Power Administration for its power customers.

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ENERGY-EFFICIENCY PROGRAM MANAGER RIDING HIGH ON LEARNING CURVE

To be an energy-efficiency professional is to learn something new every day, whether you are a seasoned veteran or new to the job like Energy-efficiency Program Manager Mary Wiener.

Wiener took her first utility job with Holy Cross Energy in Glenwood Springs, Colo., late last year, and Energy Services Bulletin is following her progress in her new position. Now five months into shepherding Holy Cross's revamped rebate program, Wiener admits that the job keeps her on the move, which suits her just fine. "I love being busy and getting the word out about our program," she insisted.

Holy Cross offers an extensive menu of rebates to encourage customers to make energy-saving improvements in their homes and businesses. The utility's ultimate goal is to save 33,039 megawatt-hours (MWh) over five years. The 2013 updates to the established program focus on large commercial customers, the heaviest users, to reach that ambitious goal.

THIS YEAR IN REBATES

In the updated program's first quarter, Wiener has received a total of 108 rebate applications—mostly from the residential side. "Our program for decommissioning old, but working refrigerators and freezers is very popular right now," Wiener explained. "Customers get a \$100 rebate for recycling an old working refrigerator or freezer."

Commercial customers have been slower to take advantage of Holy Cross's generous incentives, but that is not surprising, given that skiing is the area's big industry. Now that the ski season is over, Wiener expects the hospitality businesses to turn their attention to maintenance and repairs. "I'll be doing a lot of commercial outreach through the summer months," she said.

IDENTIFYING BUSINESS NEEDS

Summer will be a time of getting to know commercial customers and of



Snow-making equipment drives up energy bills for ski resorts. Holy Cross Energy is working with Vail and Beaver Creek Ski Resorts on a pilot project to reduce the amount of energy snow cannons like this one consume. (Photo by SMI.)

commercial customers getting to know more about their own energy use. One of Holy Cross's tools to help raise energy awareness among business owners is a "Top 100" list of the company's biggest energy users by kilowatt. "That helps customers zero in on the systems and equipment that are driving their electric bills up," said Wiener.

Retail customers still call about lighting but often discover the real culprit is refrigeration for convenience and liquor stores. Old units have inefficient motors that produce a lot of heat, which causes them to work

harder to cool. Retrofitting coolers with electronically commutated motors (EC motors)—single-phase, variable-speed motors—offers a quick payback.

This year, Wiener plans to concentrate mainly on building relationships with commercial customers. "Most of the big resorts already have their operations and maintenance budgets set for 2013," she pointed out. "I'll be working on getting them to think about projects they put into their 2014 budgets."

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UGP CUSTOMERS HAIL IR CAMERA WORKSHOP A SUCCESS

Proving again that infrared thermography is one popular diagnostic tool, 18 utility and weatherization professionals showed up for An Introduction to Thermographic Principles, a workshop hosted by Heartland Consumers Power District, March 20 to 21.

Energy Services teamed up with Clean Energy Ambassadors (CEA) to sponsor the event at Heartland's Madison, S.D., headquarters. "Heartland was a great host," said CEA AmeriCorps Energy Corps Member Anthony Cutler. "[Customer Relations and Marketing Manager] Steve Moses did a great job of setting things up. We couldn't have asked for a better facility."

COMPREHENSIVE CURRICULUM

The Snell Group presented the workshop, which was similar to one Nebraska Public Power District (NPPD) sponsored back in November 2012. The material covered home energy auditing, building inspection and electrical system maintenance. Energy Services Manager Ron Horstman, who has a municipal utility background, observed that maintenance engineers may be surprised to discover how useful it is to know about building inspection. "When you work at a small utility, you wear a lot of hats, so it's good to get a broad perspective," he said. "One well-timed inspection can save a city enough money to pay for the training in one day."

Equipment Loan Manager Gary Hoffmann attended the NPPD event and agreed with Horstman that the training could benefit both energy auditors and maintenance specialists. "We've learned from the Equipment Loan Program that the more people know about IR cameras, the more uses they find for them," said Hoffmann.

SMALL CLASSES, BIG EXPERIENCE

The attendance indicated that Western's customers have caught on to the versatility of the IR camera, too. "The class size was about perfect," admitted Cutler. "Snell prefers to limit the size of its classes so that the participants can get the attention they need."

The course is set up to provide plenty of hands-on time with the cameras. Some participants brought the cameras they use in their own utility programs, but Western and Snell supplied several different models for those who didn't. Scott Kittelson, operations supervisor with West Central Electric Cooperative in Murdo, S.D., used one of the available cameras. "We haven't invested in a camera yet, so I appreciated the chance to go over basic camera set-up and adjustments," he said. "This was a helpful workshop for people who haven't had a lot of experience with infrared thermography."

Line Superintendent Warren Schmitt of NorVal Electric Cooperative enjoyed the "real-world" exercises of hunting for leaks and hot spots in the building. NorVal is one of those smaller co-ops that Horstman described, so Schmitt expects the training to come in handy for both home audits and line maintenance.

HOST, SHARE TRAINING

Western thanks CEA and Heartland for their hard work in making An Introduction to Thermographic Principles, such a success. The big turnout and enthusiastic reviews suggest that utilities are gaining appreciation for this flexible tool and want to learn more about the many uses for infrared thermography.

Energy Services welcomes the opportunity to make that training available to our customers, whether by cosponsoring the workshop as we did



Workshop participants enjoyed exercises that helped them become familiar with their IR camera controls. See Heartland's blog, ForwardThinking, for more photos from the workshop. (Photos by Danielle Rosheim, Heartland Consumers Power District)

with CEA and Heartland, or by simply promoting an event a customer has already planned.

Utilities that would like to cosponsor a workshop on infrared thermography or any other topic can contact their regional Energy Services representative. If your utility has scheduled a training event, you can add it to the Energy Events Calendar, or send it to Energy Services Bulletin. And once the training is over don't forget to share your ideas for using IR cameras! ⚡

For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb3.aspx>



QUESTION:

What are typical opportunities for saving energy and water in a car wash business?

ANSWER:

Car washes are energyintensive facilities. Water heating, pumps, blowers and interior and exterior lighting all consume significant amounts of energy. Since commercial electrical rate schedules are often based on both kilowatt-hour (kWh) consumption and kilowatt (kW) demand, it is also important to look for ways to reduce peak energy demands.

AUDIT FIRST

The first step in any energy conservation effort is to perform an energy audit. It's a good idea to hire an expert, even better if you can find someone experienced in car wash facilities. The audit will tell you how the energy is being used within the facility (e.g., water heating, lights, pumps, blowers, etc.) and it should provide you with an inventory of energy-consuming equipment (water-heating equipment, lights, pumps and blowers, motor types and sizes, etc.). With this information in hand and knowledge of how the facility operates, you are ready to develop a list of possible measures to reduce energy consumption.

EQUIPMENT EFFICIENCIES

Motors are a good place to start. Manufacturers often bid competitively on blowers and pumps are often bid competitively, and substituting cheaper motors with less-than-optimum energy efficiencies is one way they reduce costs. Replacing these motors with high-efficiency units can often reduce both electrical demand and energy consumption. The blowers used to dry vehicles usually operate on a fixed-time cycle, which may over-dry during hot, dry weather. Installing more sophisticated drying controls may improve drying results, as well as save energy. The Department of Energy's Energy Efficiency &

Renewable Energy Advanced Manufacturing Office offers tools for assessing Motor Systems, such as the Motor Master software.

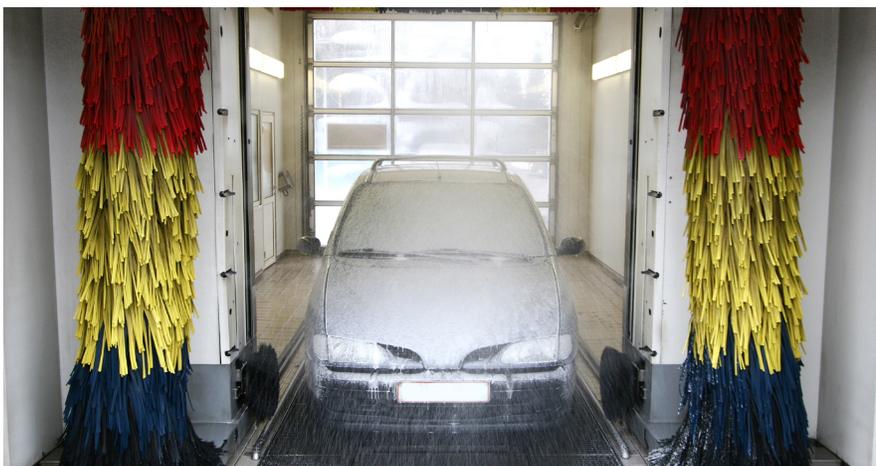
WATER-ENERGY CONNECTION

Water heating is another big energy consumer. As with motors, manufacturers often specify low-efficiency boilers. Replacing an older, relatively inefficient boiler with a high-efficiency condensing boiler may be cost-effective.

Most car wash facilities reuse the wash water, allowing the dirt to settle out and filtering the water before recycling it. A clogged filter can increase pumping energy requirements substantially. Check into a self-cleaning filter system to save both energy and maintenance, and to get the best possible filter performance. Orival, Inc. and TEKLEEN (Automatic Filters, Inc.) manufacture self-cleaning systems.

As in many industries, water use and energy are closely linked. *Owning and Operating a Water Efficient Professional Car Wash*, a publication from the Arizona Department of Water Resources, provides suggestions for reducing water use in a car wash.

Once you start looking, you are certain to find many other energy conservation opportunities. Working with a qualified professional will help you decide what is right for your facility. An energy services company is another resource that might be useful in your situation. These companies perform energy audits, then select and install energy conservation measures. You pay the company with a percentage of the energy savings. ⚡



For links to more resources, visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb4.aspx>



WEBSITE OF THE MONTH:
WESTERN'S ENERGY SERVICES

As Dorothy discovered in Oz, there is no place like home page...ok, home—you get the idea. In this column's monthly search for new Web resources Western customers might use to improve their efficiency, we may be overlooking the goldmine in our own backyard (so to speak).

WAKE-UP CALL

Take our Resources section, for example, a collection of industry websites, databases and contacts. A retired science teacher recently stumbled across our energy-efficiency resources while helping his granddaughter with a school assignment. The student used the sites listed there to help her complete a science-fair project on going green and her grandfather wrote to let us know how much they appreciated the information.

His kind thank-you note reminded us of how much our website offers Western customers and their ratepayers. Also, we realized that there are customers out there—new to member services or to the utility industry—who aren't familiar with this resource, and could use an introduction.

WELCOME HOME

The Energy Services home page greets visitors with updates about news and events. The latest headlines from Energy Services' blog, Breaking News, are listed in the page's center section. These stories go into more detail about training opportunities, new programs and technologies and utility news. Customers can submit press releases for Breaking News and comment on the stories.

The menu on the right connects visitors to tools and databases provided by our partners, Energy Experts. Member services representa-

tives can use the air-conditioning calculator, heating calculator, pool energy use calculator and pumping system efficiency calculator to help consumers determine the cost effectiveness of efficiency upgrades. A daily tip, question of the day and upcoming event complete the menu. The left navigation bar takes users deeper into the site to explore other programs and services.

WAREHOUSE OF SOLUTIONS

Information is power—literally, when it covers programs, technologies and measures that help utilities extend their resources. Energy Services publications include newsletters like the Energy Services Bulletin, guidebooks and customizable fact sheets.

You can keep up with the latest developments in resource management with Energy Services publications or you can do your own research with the same websites that we use. Whether you are planning for a hot, dry summer, encouraging your customers to install energy-efficient equipment or helping your kids with a science project, the resource section is like having your own energy library right on your desktop.

Sometimes, information alone isn't the answer—to find a hot spot on a power line or show a homeowner what a vampire load is, you need a tool! The Equipment Loan Program stocks a range of infrared cameras, power meters and energy audit equipment Western customers can borrow for the cost of return shipping.



YOUR GREATEST RESOURCE

Making sure there is enough clean, reliable, low-cost hydropower to meet our customers' needs and to extend the resources to more agencies takes a lot of planning. Western customers contribute to this process by doing integrated resource plans (IRPs) or alternative reports. These are comprehensive evaluations of the electrical resources available to a utility to meet consumers' current and projected needs. An extensive section of the Energy Services website is dedicated to helping customers complete this formidable—but crucial—task.

Just figuring out what to include in an IRP or annual update is daunting enough, especially for those who are new to planning. Compliance Training clarifies what customers must legally include in plans and annual reports; how Western reviews plans, evaluates compliance and monitors implementation. Before submitting your IRP or alternative plan, review it using the appropriate checklist. If you are not sure which type of report your utility should submit, you can request technical assistance.

Annual updates can be submitted through data collection system, a web-based program Energy Services created to streamline reporting and bring more consistency to reviewing reports. Customers must register to use the system, and it takes some

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time to get used to the format, but it saves the information from year to year, making it easy to update your report. A version for the five-year report is in the works.

There is no “one size fits all” in resource planning, but it may help you to see what other utilities in

your area are doing. Take a look at customer IRPs to get ideas for measures and programs utilities have used to control costs and keep their customers satisfied. You may even find a neighboring utility that would be willing to collaborate on a program.

Clearly, there is a great deal to learn about planning, but embracing the process offers big rewards. A

utility’s best protection against volatile fuel prices, new regulations and unpredictable economies is a careful analysis of demand and of the resources, technologies and strategies available to meet it. That, ultimately, is the lesson behind all the ideas Energy Services collects and shares, all the trainings we sponsor and all the tools we loan. ⚡

For links to more resources,
visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb5.aspx>

Learning curve from page 3

PROACTIVE INDUSTRY

Some ski resorts already know the value of energy efficiency, and have projects underway that will help push Holy Cross toward its savings goal. Aspen Ski Company, for example, replaced inefficient evaporator fan motors in their restaurants with EC motors and is putting a variable frequency drive (VFD) on a 300 horsepower pump for snowmaking. Those changes could save the resort 85,000 kWh a year.

Even more exciting is a partnership with Vail and Beaver Creek Ski Resorts to corral a huge energy hog. Holy Cross is working with the resort to fund the installation of two big snow-making compressors that could reduce the load by 2,800,000 kilowatt-hours (kWh) next year. “Snowmaking drives up energy bills amazingly, and drought and climate change are only going to make it worse,” Wiener pointed out.

On a snow-making tour of Vail’s Beaver Creek Resort, Wiener and some Holy Cross board members learned about different snowmaking equipment. “There’s a real science to it. You don’t just turn on the pumps

and start up the water,” she said. “The resort was making snow this year well into January. The ski industry is as dependent on the weather as agriculture,” added Wiener.

OUT OF STATE, HARD TO REACH

Aspen and Vail are locally managed, but many resorts are not, and that can make it hard to get information about rebates to the decision makers, Wiener admitted. “If the electric bills go to corporate headquarters out of state, the facility managers aren’t going to see the bill stuffers and learn about the rebates,” she said.

The answer is to hit the pavement, to visit chief engineers and facility managers in person. “When I worked for EnergySmart in Boulder County [Colo.], the rule of thumb was that we had to call on a business three times before they would talk to us about the program,” Wiener recalled. “That’s what I’ll be doing here, now that it’s ‘mud season’ and facility managers have more time to talk.”

Large vacation homes present a similar challenge to the energy-efficiency program. Holy Cross has many secondary residences in its territory, and they can consume more energy than a small business. “These houses

are big—as much as 15,000 square feet—and they sit unoccupied for months at a time,” said Wiener. “All of them have property managers, but that person may not be in a position to sign off on home improvements. It’s really pushing our Member Services team to think outside the box on how to motivate the owners to make upgrades.”

CLOSER TO HOME

Even reaching full-time residents can require some out-of-the-box thinking. For the first time, Holy Cross is holding its annual customer meeting in Vail, the source of 60 percent of the utility’s revenue. “We are hoping the move will increase attendance,” Wiener said.

The meeting will be her first with Holy Cross Energy, and Wiener is using the event to introduce herself and her program. Each member attending will receive a 13-watt (60-watt equivalent) light-emitting diode, or LED, lamp with a message about rebates printed on the box. “And I want to be the one handing out the gift,” she said. “I’m always looking for one more way to get the word out about the program.” ⚡

For links to more resources,
visit <http://ww2.wapa.gov/sites/western/es/pubs/esb/Pages/esb2.aspx>