

BULLETIN

The energy and planning resource for Western utilities

CITY OF BANNING UTILITY APPRECIATES VALUE OF INTEGRATED RESOURCE PLAN

The utility industry is going through a period of intense change—some would say upheaval—that makes planning more important than ever and well worth the time involved. Just ask Jim Steffens of the City of Banning, California, Electric Utility. “I like that the integrated resource plan (IRP) touches on so many areas of the utility,” said the Electric Utility Power Resources and Revenue Administrator. “The process made us think about how all the different parts, like the distribution system, play into delivering electricity.”

California’s Public Benefits Charge of 2.85 percent of retail sales make the municipal utility eligible to file a minimum investment report instead of an IRP. Yet the city opted to do the full IRP process for Banning’s 2015 report. “Historically, our five-year IRPs were very simple and didn’t change much because not much had changed since we last did a full IRP,” explained



The Banning police department carports are topped with a solar array. Although solar power is still a relatively small piece of the city’s power supply, Banning will be adding more in the near future. (Photo by City of Banning, California)

Steffens. “Then over the last few years, due to legislative and regulatory mandates, everything started changing fast and we really needed the comprehensive picture you get from an IRP.”

Times a-changin’

Banning Electric gets the majority of its electricity supply through contracts with the Southern California Public Power Authority for coal, nuclear and hydropower. Because California law does not permit electric utilities to invest in coal-fired power, SCPPA will be divesting its part ownership of the San Juan Unit 3 coal plant in New Mexico in 2017. “So there goes 20 megawatts (MW) of baseload power, which is a big deal for Banning,” said

Steffen, adding, “Yes, we are a tiny utility.”

Some of that power will be replaced by 9.6 MW of landfill gas power from the Puente Hills facility built by the Sanitation Districts of Los Angeles County. A utility-scale solar farm on the border of Kern and Los Angeles counties will provide another 8 MW. In other words, Banning is looking down the road at a whole new resource mix by 2018.

Being located in a state on the cutting edge of transforming the power supply means that the city of 30,000 will have to look for ways to innovate, and that is where planning comes in. California’s carbon cap-and-trade program gives utilities

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allowances for compliance that can be auctioned. The IRP helped Steffens figure out how much of the auction proceeds Banning can bank to help cover the cost of prematurely getting rid of the San Juan plant.

Steffens also used the plan to track the city's progress meeting the state's aggressive renewable portfolio standard. "It showed that we may come up slightly short in one particular year, so we can start planning for that year now," he said. "However, we are very proud of the fact that the utility power supply will be more than 70 percent renewable by 2018."

Evolving load

Like the power supply, Banning's load is also starting to change after decades of relative stability. Electricity demand dropped during the recession and has not yet fully recovered, but signs point in different directions.

In an economically challenged area, Banning residents have not adopted rooftop solar systems or electric vehicles (EVs) at the same rate as in other parts of the state. But both of these technologies are becoming more common and more affordable, so the city has to be ready. EVs could



Banning Electric created its new commercial efficiency plan, the Business Energy Efficiency Fund, the BEEF, specifically to help small and mid-sized businesses like Star Auto Parts. (Photo by City of Banning, California)

bring load growth, even as distributed generation reduces the utility's load. Such uncertainties make the annual IRP progress report that much more important.

Population growth is putting more pressure on Banning too, with two large housing developments scheduled to start construction soon after 2020. "The past 10 years have been a real lesson in how quickly things we used to take for granted can change," observed Steffens.

Plan points way

Efficiency is also included in Banning's plan for the future. "A good portion of our Public Benefits funding covers the low-income Banning Electric Alternative Rate, or BEAR, but we also fund rebates," noted Steffens. "Efficiency programs are an important part of customer service."

Residential and commercial rebates are available for Energy Star appliances, air conditioner replacements, shade trees, weatherization, low-flush toilets, new construction, renewable systems and refrigerator and freezer recycling. The utility just launched a new commercial efficiency plan, the Business Energy Efficiency Fund, or "The BEEF,

developed specifically for our small and mid-sized business community," said Steffens.

Most of the businesses in Banning are small mom-and-pop operations that often don't have extra capital for upgrades but could benefit greatly from lower utility bills.

Participants receive a free walk-through energy assessment to identify potential energy-saving upgrades to lighting, heating and cooling, water heating, motors and refrigeration. The businesses can then select the retrofit that best meets their needs and the utility pays up to \$2,750 for the project.

When asked what percentage of Banning customers were commercial, Steffens checked his IRP. "Twenty-seven percent," he replied. "The great thing about the IRP is that I have the answer to questions like that right in front of me."

Steffens pointed out that the benefits of the IRP go well beyond just getting information in one place. "When things are changing as much as they are for Banning, you need to see the big picture and dive deep into the details," he said. "We didn't have to do the full IRP, but it is a great exercise to show you where you are going." ⚡

ENERGY SERVICES BULLETIN

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Editor: Kevon Storie
Designer: Grant Kuhn



HIGH WEST ENERGY HEARS CUSTOMERS, LAUNCHES ASSESSMENT PROGRAM

Listening is what sets electric cooperatives and municipal utilities apart from their investor-owned counterparts, along with the commitment to take action on what they hear. So when members told High West Energy, they needed help to reduce their energy bills, the southern Wyoming-based co-op gave them what they wanted.

Pick and choose

High West Energy Home Wise programThe four-tier Home Wise program lets members choose from different levels of energy feedback, depending on their needs. “We wanted them to have options,” said Energy Management Advisor Joy Manning.

At the free Bronze level, homeowners can do their own assessment with the Touchstone Home Energy Saver software. They plug energy-use data into an online portal, and get solutions to reduce consumption ranked by payback time. The Silver level, also free, includes a brief walk-through assessment and a report that shows how the occupants’ energy-use decisions affect their electric bill.

At the Gold level, members receive a one-to-two-hour energy assessment for \$250, half of which is rebated if the member completes a suggested upgrade. Manning inspects the premises and provides a report that covers typical operating costs of the appliances, as well as the results of an infrared (IR) camera inspection and blower door test.

Members who opt for the Platinum level pay \$500 for a comprehensive, attic-to-basement assessment with IR camera, blower door and duct blaster. “And a new best friend,” joked Manning, referring to the length of time it takes to thoroughly inspect a property. She works with the homeowner to develop an action plan to reduce energy use, and High West re-

imburses 50 percent of the assessment cost for completing a recommended project.

Laying groundwork

High West spent a year putting the pieces of Home Wise in place before unveiling the program.

While assembling the tools for an assessment—IR camera, blower door and duct blaster—Manning worked on building her own skill set. Last February, she attended an energy audit workshop hosted by TriState Generation and Transmission Association, High West’s power wholesaler. The energy management advisor is also pursuing her energy manager certification.

The board of directors gave the project the green light in August, said Manning, but it did not require a hard sell. “Taking members’ needs into account is a central co-op principle,” she explained. “So is wise management of our energy resources.”

The preparation came together in a “soft launch” of Home Wise in November. Members received a bill stuffer announcing the availability of home assessments. An article about the program also appeared in High West’s November newsletter.

Public Relations and Marketing Manager Lorrell Walter explained that they wanted time to gauge member interest and see what kind of resources the program needed. “Joy is a one-woman show, and she manages a lot of different programs,” Walter said. “We would rather build up Home Wise slowly to make sure it has the resources it needs to deliver value to our members.”



Time to engage

In the meantime, Manning has been reaching out to members who call about high bills. “If they are concerned about their energy use, I want to touch base and let them know what the data is telling me,” she said.

The data from High West’s smart meter system reveals a lot, as it turns out. “We can pinpoint energy use down to the hour,” explained Manning. “The data helped me find a well pump that was going bad, and we’ve learned that space heaters take a lot of energy. We have this tremendous opportunity to educate people about their energy use habits if we can just spend a little time talking to them.”

Manning expects to have more opportunities to talk to members after the holidays as winter sets in and people pay more attention to their utility bills. That includes commercial as well as residential and agricultural members, she added. “The program is available to businesses, too, but that is a smaller member segment, so we haven’t really pushed that angle.”

Walter and Manning are both looking forward to engaging members through Home Wise and watching the program grow. “Home energy assessments aren’t new, but they are new to High West,” Manning acknowledged. “The members want it and it is time for us to get started.” ⚡

EQUIPMENT LOAN CHAMPION RETIRES

Western is pleased to recognize Darrel Iverson of the University of North Dakota as a pioneer in the use of infrared, or IR, thermography in the early detection and prevention of electric power system problems.

First in line

Iverson, who retires in January as an electrician with UND Facilities Management, began using the IR cameras at the university nearly three decades ago to improve the reliability of its power distribution system. Customer Service Representative Jim Bach of Western's Upper Great Plains regional office first introduced Iverson to the Equipment Loan Program in 1986. "The first time we saw an IR camera, we weren't sure what to do with it," recalled Iverson. "Then Western held a training class in Sioux City, Iowa."

The facilities electrician quickly recognized the technology's potential and became a member of the "First Dozen" club—customers who were among the first to borrow from the Equipment Loan Program. "As far as I'm concerned, when it comes to an electrical system, the IR camera is a godsend," Iverson declared. "If you are not doing IR inspections, you are not taking care of your system."

Problem solver

Iverson continued to keep up with the changing technology, from early cameras that filled two large suitcase-sized shipping boxes with necessary accessories to today's thumb-sized cameras that attach to smart phones.

Throughout the years, each time Iverson borrowed a camera from Western, he kept refining his inspection technique to protect his crew and the equipment. "One of the great things about the Equipment Loan Program is that every time Western got a new camera, I got to learn about new technology and share that with coworkers," he said.



University of North Dakota Electrician Darrel Iverson shows off the Competitive Edge award he received from Western's Energy Services in 2003. Iverson is retiring in January.

Equipment Loan Manager Gary Hoffmann recalled one particularly ingenious solution to inspecting the confined spaces of underground vaults and tunnels. "Checking electrical distribution systems in those places is potentially hazardous for workers because of the dangers of toxic fumes, flooding or fires," said Hoffmann.

Iverson created a version of a bucket camera by mounting an infrared camera with a remote control inside a bucket with a hole in it for the lens. After testing the spaces to be inspected for toxic fumes that could cause an explosion, the inspector lowered the camera into the space by a rope tied to the bucket handle. The improvised rigging allowed the inspector to take pictures of vaults and tunnels without having to physically enter them.

"Darrel told me once that he tied the other end of the rope around his back and shoulder. If he accidentally dropped the camera into the vault, he wanted the rope to pull him in with it," said Hoffmann. "That way, he wouldn't have to explain to us how he smashed our camera."

Educator

Iverson often provided Energy Services with copies of reports on

potential problems to share with other Western customers so that they could learn from his experiences. His desire to educate led him to persuade the university to sponsor one of Western's infrared training workshops in Grand Forks in 2011. The utility representatives who attended the workshop learned a great deal about the uses of IR cameras and inspection techniques from Iverson's extensive experience.

In 2003, the Energy Services program recognized his dedication with Western's Competitive Edge award for commitment to specific energy-efficiency or renewable energy projects or programs.

Iverson has worked with many Equipment Loan managers—Gary Hoffmann, Rich Burnkrant, Jim Bach—and, "They have all been great to work with," he said.

The Energy Services staff feels the same way about Iverson. He was a true ambassador for the Energy Services program and for best practices in energy use. We have enjoyed working with him and learning from him with each loan. Darrel Iverson is the kind of person who makes us look forward to doing our jobs every day. ⚡

ELECTRO-TECH EXPO SHOWCASES EFFICIENT TECHNOLOGY

For the 16th year, a Western customer and an investor-owned utility are teaming up to expose energy professionals in the Upper Great Plains region to cutting-edge equipment and systems and the latest in best construction practices.

The 2016 Electro-Technology Expo will take place, Jan. 21, 2016, at the Ramkota Best Western Inn and Convention Center in Rapid City, South Dakota. West River Electric Association of Wall, South Dakota, and Black Hills Power of Rapid City co-sponsor this popular event. Western also supports the Expo as a co-sponsor. UGP Energy Services Representative Georganne Myers said, "It's a great place for our customers to network and learn so much in one day, and the price is affordable." Admission to Electro-Technology Expo is \$30, which includes qualifying code hours and continuing education credits.

Something for everybody

In fact, the Electro-Technology Expo is designed specifically to bring professionals together. This year's Keynote Speaker is Mike Eggl, senior vice president of Communications and Administration for Basin Electric Power Cooperative. Vendors display state-of-the-art, energy-efficiency technology on the exhibit floor where utility program managers and contractors can inspect the equipment and get answers to their questions. Industry experts conduct workshops on topics of concern to power providers, facility managers and building industry professionals.

This year's sessions include:

- LED street and area lighting case studies – several sessions plus vendor booths
- Demand management systems
- Geothermal systems



US Chamber of Commerce Senior Policy Director Heath Knakmuhs spoke at the 15th annual Electro-Technology Expo last year. The event attracts policy makers as well as experts from across the electronics, construction and utility industries. (Photo by Black Hills Power)

- Energy-efficient lighting technology
- Home weatherization
- Sustainability incentives
- Electrical code classes (three sessions)
- Motors and drives
- Heat pump system troubleshooting
- Hydronic in-floor heating systems
- Changes in water heater regulations
- Utility energy-efficiency program overview

Organizers distribute surveys at the end of the event to ask attendees for suggestions on future topics. "We start working on the next Expo the day after," said Black Hills Power Energy Services Engineer Don Martinez.

Going strong

The value of the Expo shows in its enduring popularity. Attendance has

grown over the years to more than 300 in 2015. Part of the growth has to do with an explosion of energy-related technologies. "Each year, attendees can count on seeing something new," Martinez observed. "So much is happening in the industry, it can be hard to keep up. The Expo is a one-day crash course."

The speaker roster is drawn mainly from vendors and suppliers, who have the opportunity to reach out to potential customers. Design and construction professionals; facility energy managers; building system specialists and real estate sales representatives, appraisers and inspectors can network with one another. Utility professionals get to meet with attendees from industries that have a profound effect on energy use.

The Expo planning committee has also built relationships with the local trade schools and school of mines. "It's a chance to familiarize students with different aspects of the energy

See ELECTRO-TECH EXPO, page 7

CUSTOMER SERVICE CULTURE MADE, NOT BORN

As we roll into another year that promises unprecedented change in the utility industry, consider giving your organization a gift that can smooth the way forward: great customer service.

In a recent article in *Intelligent Utility*, authors Patty Cruz and Rebecca Shiflea analyze practices at companies known for outstanding customer service and offer 10 steps utilities can take to cultivate a successful customer service culture:



1. Engage leadership –

Organizational philosophy starts at the top. Utility executives must communicate that everyone and every job exists to support delivering electricity to customers and community.

2. Engage customers –

The expectations customers have about utility services are changing. Use different avenues of outreach—public meetings, social media, focus groups, etc.—to learn about those expectations and design products and services to meet your customers' needs.

3. Hire the right people –

With an aging workforce, utilities are likely to be doing a lot of recruiting and hiring during the next several years. Consider this an opportunity to look for candidates who have not only the right skills for the job, but also the right attitude to support a customer service culture.

4. Cultural alignment –

Improving the customer experience must be the responsibility of everyone in the organization, not just the customer service department. The structure, policies and procedures should also support those goals. Rigid policies can be a barrier to good customer service.

5. Educate and train –

Employee orientation is the place to start telling new hires what great service looks like at the utility. Explain how the interests of each employee are tied to the overall organization and how both benefit from improving service. Don't limit training to new employees, either. Companies that are known for having the best customer service make training a continuous process.

6. Retain the best –

Make providing great service fun and rewarding. Even employees who do not directly interact with customers should understand how their work ultimately affects customers. Build a work environment that engages and motivates employees to improve performance, and your utility will attract and retain superior talent.

7. Empower your employees –

Provide customer-facing employees with a framework—the outcome should be favorable for the customer, not hurt the utility (e.g., financially, legally) and enhance the relationship between the organization and the customer—and let them explore innovative service solutions.

8. Communicate service success –

Recognizing and sharing employee

accomplishments when they deliver exceptional customer service reinforces its importance to the organization. Examples of excellent customer service should be communicated both internally and externally.

9. Reward and recognize excellent customer service –

You get more of the behavior you reward, so develop ways to recognize and reward specific employees for their good service behaviors. When you conduct surveys on customer satisfaction and the quality of service, share the results with all employees so that everyone knows of the results and receives recognition for what is going well.

10. Create and track metrics –

The act of measuring can create a sense of competition in employees, and even encourage them to compete with their own records. Setting goals and measuring performance also provides the ability to hold individuals, groups and an entire organization accountable for the resulting success or failure.

Read the full article for more insights and examples of how utilities have improved their customer service programs. Happy New Year, and may all your customers be satisfied. ⚡

MORE THAN \$4 MILLION IN MEMBER EQUITY DISTRIBUTED TO HOLY CROSS MEMBERS

Holy Cross Energy members can expect a Christmas present from the cooperative's board of directors in the form of a member equity distribution refund of more than \$4 million.

More than 32,000 current and former members who purchased electricity from Holy Cross in 1999 and 2000 should receive member equity refund checks by mid-December. Refunds of less than \$10.00 will appear as a credit on upcoming member electric statements.

As an electric cooperative, Holy Cross Energy shares its success with all its members, and member equity distribution is an important



HOLY CROSS ENERGY

A Touchstone Energy® Cooperative 

part of the cooperative philosophy. The not-for-profit utility's mission includes providing electric service at a reasonable cost and returning profits or "margins" remaining after operation expenses back to its members.

"We have an impressive track record regarding member equity," stated Holy Cross Member Services Manager Stephen B. Casey. "This distribution represents the 34th consecutive year that member equity has been returned to our

members. Since 1963, Holy Cross Energy has returned nearly \$135.7 million to its members!" he added.

Holy Cross Energy is a rural electric distribution cooperative organized in 1939 to provide electricity to more than 55,500 services in western Colorado. Western congratulates our customer for showing what public power is all about: savvy energy management and outstanding service to its members. ⚡

Electro-tech Expo

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industry and let them know what kind of careers are out there for them," Martinez explained. "The Expo is not a job fair, but connections happen," he added.

Spreading efficiency

Putting on an event like the Expo is a lot of work that many utilities would consider beyond their scope. For Black Hills and West River, however, the Expo is a way to educate customers about

equipment and practices that can reduce utility bills and operating costs. Getting trade allies excited about more efficient products to offer their customers has an upstream effect, as well, driving eventual market transformation.

The benefits of creating a forum for sharing information about energy-efficiency technologies and practices are significant enough to get a public power utility and an investor-owned

utility to work together. "It is not often you see a joint effort between a public power utility and an IOU," acknowledged Martinez. "But customer education is an important part of every power provider's mission."

For more information about the 2016 Electro-Technology Expo, on either attending or exhibiting, contact Jamie Hill at 605-721-2276. ⚡

ACEEE: ECONOMISTS, ENERGY PRACTITIONERS NEED TO WORK TOGETHER TO IMPROVE ENERGY EFFICIENCY PROGRAMS

In a recent blog post, Steven Nadel, executive director of the American Council for an Energy-Efficient Economy, suggested that energy-efficiency programs could benefit if economists and energy professionals combined their skills, instead of talking past each other.

In the past year, economists have been producing more and more papers questioning the effectiveness of energy-efficiency programs and policies. Acknowledging that not all programs are well-designed, Nadel pointed out that the studies, too, have flaws that prevent them from providing meaningful evaluation.

One problem, he observed, is that the two industries use different methods to measure results. Economists tend to prefer rigorous evaluation through randomized control trials. In these studies, a large group of potential participants is randomly assigned to either a study or control

group. But randomized control trials can be very difficult to implement, as even some economists admit. In full-scale programs that are available to all utility customers, random assignment to a control group is simply not possible.

In recent years, the energy-efficiency community has increasingly relied on the use of “deemed savings estimates” that are supposed to be based on prior evaluations. Unfortunately, these evaluations are not always as rigorous or as frequent as they need to be to give an accurate estimate.

Some study designs evaluate only certain aspects of a program, while overlooking goals and benefits that were central to the implementers’ intent, the ACEEE executive director said. He also noted that there have been times economists applied conclusions drawn from one evaluation to programs that have little in common with the one studied.

Nadel proposes that the two

sides need to work together; first, to identify typical and similar program models for study; and second, to develop evaluation methods for those programs that combine each community’s professional strengths. Economists tend to be good at research methods, he notes, but don’t always understand the markets they are evaluating. Energy-efficiency program managers need to convey to researchers the program goals, and potential benefits that go beyond simple cost-benefits analysis.

Evaluation of energy-efficiency programs to determine what works—for utilities and customers—is an ongoing challenge for program designers. Nadel concluded that if the economic and energy-efficiency communities could learn to collaborate rather than work in silos, the studies they produce could lead to more effective programs. ⚡

Source: American Council for an Energy-Efficient Economy, 12/8/15

